a.r

THE ARCHITECTURAL REVIEW VOLUME CXVI NUMBER 693 SEPTEMBER 1954 FIVE SHILLINGS

MARGINALIA

Architects' Journal Awards

Two *Architects' Journal* awards, each of £200, have been given to David Kirby of the Manchester School of Architecture, and to John Reid Oberlander, of the Edinburgh School of Architecture. These awards were offered to encourage 'original unorthodox ideas.' All Students RIBA were eligible, and entrants had only to say why they wanted the money.

David Kirby is using his £200 to rent a Manchester house, close to the University, and to convert it into a hostel for four students. 'The intellectual basis,' he writes, 'would be similar to a small residential college: the four students would be able to enjoy a continual interchange of ideas and criticisms. The house would also serve as a centre for fellow students to meet outside University hours for discussions. . . . The shortage of such places, unrestricted by economy, or narrow-minded landladies, is a great lack in the life of a red-brick University.'

The other prize-winner, John Reid Oberlander, wants to use his £200 award 'to collate information on the transplantation of mature trees; to research into possible new techniques of transplantation.'

H. Frankfort

Henri Frankfort, MA(Lond.), PhD(Leiden), FSA, born in Amsterdam February 24, 1897, Director of the Warburg Institute and Professor of the History of Pre-Classical Antiquity in the University of London since 1949, died in London on July 16, 1954.

He was an orientalist, but equally interested in philosophy and the visual arts; a man who looked upon art *qua* art, and not merely as antiquarian evidence. On the staff of the Oriental Institute of Chicago until elected to the Directorship of the Warburg Institute, which had hitherto been in the hands of art historians, Dr. Frankfort was the author and editor of books which gave a new insight into the culture of ancient Egypt and Babylon.

T. S. Tait

Thomas S. Tait, who died on July 18 last, aged 72, was senior partner in the firm of Burnet, Tait and Partners (previously Burnet, Tait and Lorne). He joined the firm in 1902 and was chiefly responsible for the gradual introduction of modern ideas into the firm's public and commercial buildings, a long series which included Adelaide House, the Royal Masonic Hospital and St. Andrew's House, Edinburgh. These are a set of compromises forming part of a hard-fought battle and two of the most successful buildings designed while he was with the firm—the King Edward VII Galleries of the British Museum and the Curzon Cinema—though in completely different styles, suggest that he worked best when he was not forced to temporize; so do

his Glasgow Exhibition buildings of 1938, the pioneers of contemporary exhibition architecture in Britain. His village at Silver End, near Braintree, Essex, contains some of the first modern houses in England (1926), and remains the only complete unit in their style; as such, it now has a period charm of its own, an achievement given some irony by the style of the post-war housing there, which has reverted to gables and steep-pitched roofs. In his pioneer efforts like these, Tait left a legacy to posterity which he could not hope to enjoy himself, and architecture is in his debt for a sum which cannot be realized by looking at his buildings one by one.

Architects in this Issue

Architects of the School at Hunstanton (see pages 148 to 162), Alison & Peter Smithson.

Alison Margaret Smithson (née Gill) was born in Sheffield in 1928. Brought up and educated at South Shields and Edinburgh, architectural training at King's College, University of Durham, 1944–49. Worked in LCC Schools Division 1949–50.

Peter Denham Smithson was born in Stockton-on-Tees in 1923. Brought up and educated at Stockton-on-Tees, architectural training at King's College, University of Durham, 1939–42 and 1945–48, and at the Royal Academy Schools. Worked in LCC Schools Division 1949–50.

Since 1952 they have worked continuously on the problem of HABITAT—submitting ideas to CIAM 9 at Aix-en-Provence in 1953. They are now preparing with groups of young architects in Holland and Morocco to direct the work of CIAM 10 into the complex problems of finding the new patterns for cities, towns and villages of Europe; i.e., the problems of human association and form.

The following list is of their joint projects in the years 1949–54: Festival of Britain Vertical Feature competition, 1949; rejected. *Hunstanton Secondary Modern School competition, 1950; completing 1954. *Coventry Cathedral competition, 1951; rejected. *Golden Lane Housing competition, 1952; rejected. Office for R. S. Jenkins (with E. Paolozzi and V. Passmore), 1952. Grille on Urban Re-identification, CIAM, 1953. *Sheffield University competition, 1953; rejected. *Kampala Office Building competition, 1953; rejected. Doha Hospital competition, 1953; rejected. Survey *The Modern Room* for Tiranti, 1953; not yet published. *Bates House, Surrey, 1953; work not yet started. Exhibition 'Parallel of Life and Art,' ICA, 1953, with R. S. Jenkins, N. Henderson and E. Paolozzi. Kirkcaldy Crematorium competition, 1954; rejected.

*In collaboration with R. S. Jenkins.

Architect of House in Noordijk (see pages 171 and 172). Allert Warners was born in a family of architects at Amsterdam, January 3, 1914. Educated at the 'Academie voor Bouwkunst' 1942. Became associate of the office of F. A. Warners in 1942. Studied in 1946–47 at the Academy in Stockholm. Travelled in Scandinavia, Germany, France, Spain, Italy and England. Designed numerous buildings and composed a Dutch number for the Royal Architectural Institute of Canada July 1950. Consulting architect for the Amsterdamse Maatschappij tot Exploitatie van Etagewoningen. Interested in contemporary art and techniques of every kind. Hobby: Ocean racing; co-winner of Fastnet Race 1937 with 'Zeearend' and many other ocean-racing events. Bachelor. Member of the Bond van Nederlandse Architecten.

Architect of House in Toronto (see pages 172 and 173). James A. Murray. Born 1919, graduated from School of Architecture, University of Toronto, with OAA Scholarship, Medal of the Royal Architectural Institute of Canada, and to his bewilderment the medal of the British Association for the Advancement of Science.

Assistant Professor of Architecture, University of Toronto. Private practice consists of residential work including single and multiple housing for merchant builders in the new town of Don Mills, Ontario; current work includes secondary school with new system for natural light control, small industrial buildings and a sealed and conditioned office building. Married with two young daughters, and one spaniel. Slightly bushed life in log cabin in Algonquin Provincial Park runs very close second to architecture in affections. Visited England, Scandinavia, the Netherlands and Switzerland on usual architect's busman's holiday in 1953, and hopes, with wife, to see Spain, Southern France, Italy and Greece in 1955.

F. M. Gross

Architect of Interiors (see pages 195 to 197). Was born in Austria in 1897. He studied as a painter,

then went to Paris to study art and architecture. He graduated at Vienna University as an architect, was a pupil of Adolf Loos and became a Fellow of the Central Institute of Austrian Architecture.

He was a pioneer in the design of modern weekend houses and modern interior design. Married, with one daughter, and collects pictures (has 2 Renoirs and 3 Picassos); he also collects prehistoric objects and antiques.

CORRESPONDENCE

Originality

To the Editors,

THE ARCHITECTURAL REVIEW

SIRS,—You are good enough to invite me to reply to the article upon Originality which takes as its text a passage from my book *English Architecture since the Regency*. The essence of my reply must lie in the last sentence of that passage itself. It is my opinion that 'in the only proper testing to which a work of art can be put—that of whether or not it pleases in the way intended by its maker—considerations of originality and unoriginality are of no importance.'

This is to say that art must eventually be judged by aesthetics, by the philosophy of the arts, and to me seems self-evident. Its other values may be great, but are those that other things than art can share, and those whose pursuit may not lead to art at all.

In the matter of Originality a great many things are said in the article that I used to think, and a few that I think still. I used to think that the new language of Brunelleschi, etc., was fundamental in the great architectural change of the Renaissance, instead of being merely coincident with the discovery of the new method of designing no longer by aggregation of parts but by partitioning a preconceived whole. I used to think that the unwonted forms exploited by Sullivan and Otto Wagner—and of course by Wright and Behrens—were capable of being sharpened into an exact and expressive vocabulary, instead of being blunted into one little more capable of nuances than is Basic English. I think, and always have thought, that, as a rule, it is 'the weaker hearts' that 'are attracted to the past.'

In this connection I must ask you to correct the personal reference in the second sentence of the article stating that 'after a phase of inventiveness in the contemporary idiom (Hay's Wharf, 1931),' I am 'now much consulted on work of restoration or remodelling of Georgian or Regency building.' With the latter I have very little to do, and I acknowledge no essential change of approach in most of what I have been designing since Hay's Wharf. If I have any particular creed it is not 'that architecture makes the architect,' but that the building makes its architecture; and that a complete comprehension of a building's programme, physical and emotional, will enable its designer to express its essence without much heed to the comparatively frivolous considerations of 'originality' and 'style.'

I am, etc.,

London. H. S. GOODHART-RENDEL.

Intelligence

The Library Association has recently published a 'Readers' Guide to Architecture.' It can be obtained from The Library Association's headquarters, County Library, Widemouth Street, Hertford, price 10d.

Architecture is now better represented in the official bodies concerned with the arts. It has recently been announced that Dr. J. L. Martin had joined the Art Panel of the Arts Council, and Mr. J. M. Richards the Fine Arts Advisory Committee of the British Council.

ACKNOWLEDGMENTS

COVER: Gordon Cullen. FRONTISPIECE: top, Lucien Herve; bottom, A. Costa. CITY REBUILDING, pages 145-147: 3, Sydney W. Newbery. SCHOOL AT HUNSTANTON, pages 148-162: Galwey, Arphot and Nigel Henderson. OLD SOMERSET HOUSE, pages 163-167: 11, Edward Leigh; 16, Windsor-Spice; 18, National Buildings Record; 20, Alinari. FLATS AT BOUNDARY ROAD, pages 168-170: John R. Pantlin. HOUSES AT NOORDWIJK, pages 171-172: Jan Versnel. HOUSE AT TORONTO, pages 172-173: Max Fleet. HOUSE IN MEXICO, pages 174-175: Guillermo Zamora. BOMARZO, pages 176-181. CURRENT ARCHITECTURE, pages 182-186: *Wolvercote Paper Mill:* Thomas Photos; *Offices in Bermondsey:* Toomey, Arphot; *Flats in Shepherds Bush:* Read, Arphot. MISCELLANY, pages 187-194: *Avenues:* J. D. U. Ward; *Exhibitions:* 1, Paul Bijtebier, 3, Vasari; *Pots in Rows:* 1, Dennis Smith, 3, 4, 5, Neil Nimmo, 6, 7, Brassai, 8, Geoffrey Cory-Wright. SKILL, pages 195-210: *Interiors:* 1-5, 8-16, John Maltby; 6, 7, Entwistle, Thorpe; *Techniques:* 13, The Times.

IBSTOCK CHESTNUT BROWN SAND-FACED BRICKS at IVEAGH HOUSE

(*Guinness Trust Flats*)

Architects:
Armstrong & MacManus, F.R.I.B.A.
Contractors:
Humphreys Ltd., London, S.W.7.
Bricks supplied through
R. Y. Ames Ltd., W.C.2.

For this seven storey block of 161 flats for the Guinness Trust at Loughborough Road, Brixton, Ibstock Chestnut facings are used with sanded finish.
Many architects choose an Ibstock facing for the distinction imparted to brick elevations by the attractive colours and varieties that are available.

Ibstock FACINGS for Colour

Owing to present demand, supplies of facings of most types are booked for a long time ahead and reservations for 1955/6 are now being made.

IBSTOCK BRICK & TILE CO. LTD., near Leicester.
London: L.M.R. Goods Depot, Wright's Lane, Kensington, W.8.

Telephone: Ibstock 391 (2 *lines*)
Telephone: Western 1281 (2 *lines*)

THE ARCHITECTURAL REVIEW

Volume 116 Number 693 Sept 1954

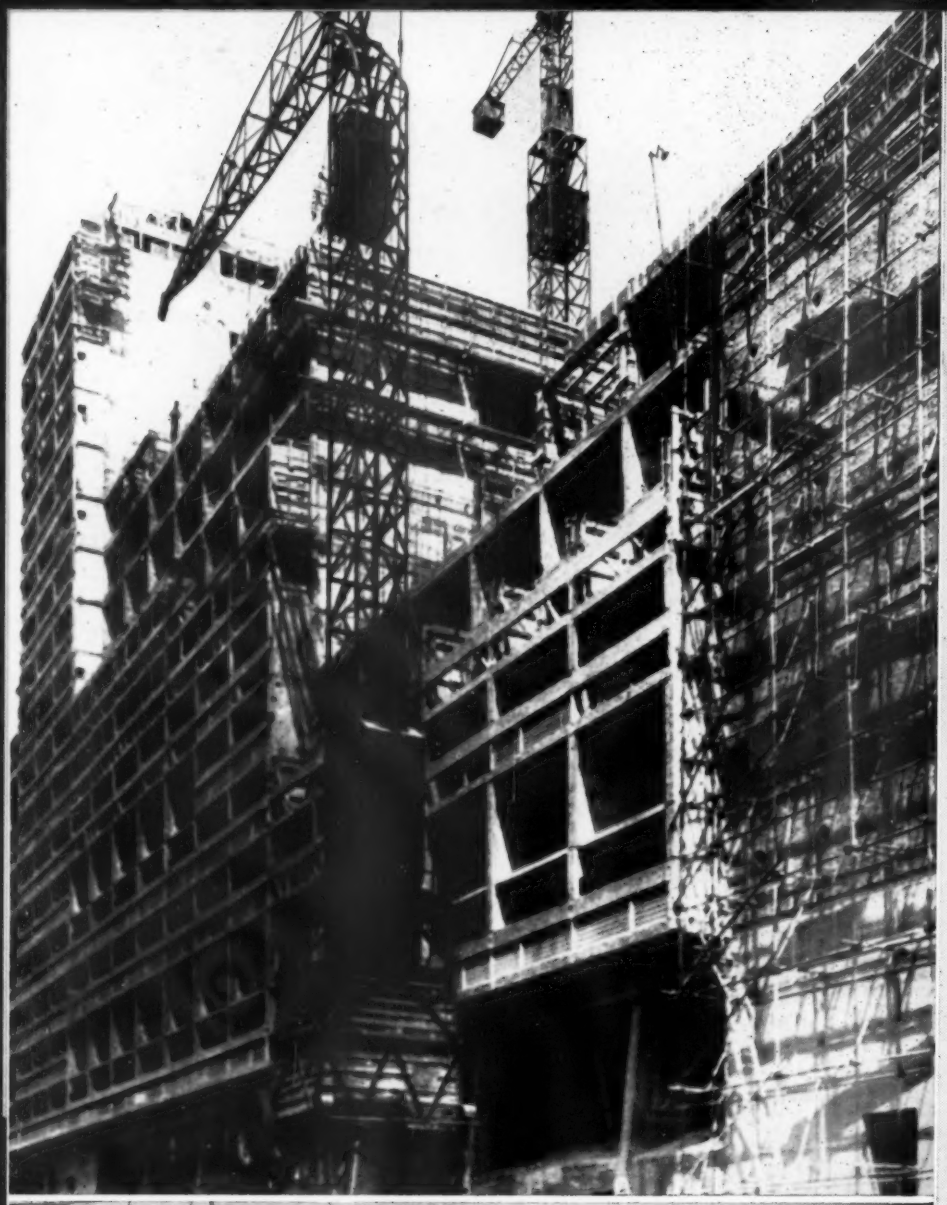
The cover, designed by Gordon Cullen, shows a mask from a garden constructed in the sixteenth century by the Duke Vincenzo Orsini near the village of Bomarzo, north of Rome. The objects that fill this little known valley—monsters, Greek gods, nymphs, mermaids, sphinxes, a dragon and an elephant—were carved from outcrops of rock which existed on the site. The moment cannot surely be far off when Bomarzo will be hailed as an outstanding revelation of Mannerism. So far its chief admirers have been Salvador Dali who covets it and a foreign benefactor who offered funds for its preservation—an offer which was ignored by the authorities. (See pages 176 to 181.)

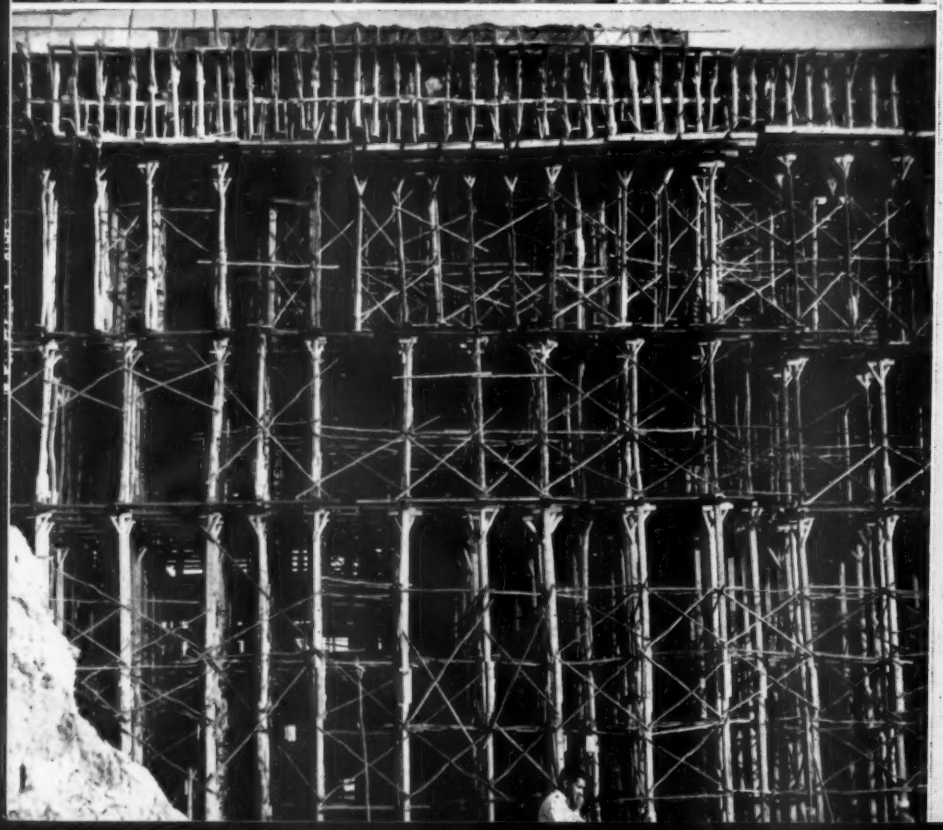
SUBSCRIPTION RATE: The annual post free subscription rate, payable in advance, is £2 18s. 0d. sterling, in USA and Canada $9. An index is issued half-yearly and is published as a supplement to the REVIEW.

THE ARCHITECTURAL REVIEW

9-13 Queen Anne's Gate, Westminster, S W 1 · Whitehall 0611

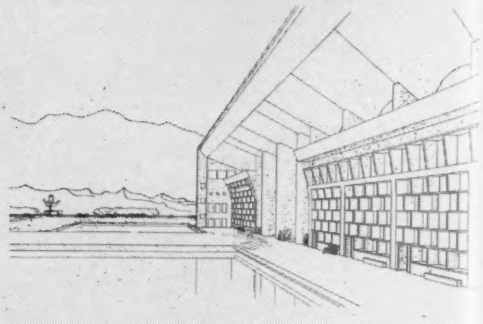
FIVE SHILLINGS





A contrast in building methods is provided by these photographs of two major works by Le Corbusier, now in an advanced stage of construction a continent apart. Top, the Unité d'Habitation at Nantes, capital of the Loire-

Inférieure department of France; bottom, the high court of justice at Chandigarh, capital of East Punjab, India. Both are of reinforced concrete, but the French building exhibits the use of pre-cast concrete components and highly developed constructional machinery on which the economics of modern architecture in Europe are largely based, whereas the Indian building is a witness of the survival of more primitive techniques in a country where labour costs are still comparatively low. The forest of timber scaffolding in which the high court is temporarily clothed creates its own drama and an air of oriental mystery which consorts oddly with an impression of superimposed



classical orders. Above are Le Corbusier's own sketches of the finished appearance of the two buildings. The Unité at Nantes, which will have approximately the same accommodation (300 maisonettes) as the same architect's similar building at Marseilles, is due to be finished at the end of this year.

J. M. Richards

CITY REBUILDING: 2*

A CRITICISM OF THE OFFICIAL POLICY FOR BUILDINGS ROUND ST. PAUL'S

What lies behind the sadly disappointing quality of the designs for the new buildings round St. Paul's Cathedral? They have come in for a lot of criticism lately along with other new buildings in the City of London, and it may have been assumed that their genteel neo-Georgian exteriors, so unsuited to the structure and purpose of the contemporary office block, to the scale on which they are being built and to the aesthetic values of the age to which they belong, were the result of timid conservatism or lack of conviction and imagination on the part of the architects or their clients. But on investigation the fact emerges that this neo-Georgian facade treatment, which threatens to surround St. Paul's with an unbroken ring of commonplace architecture reminiscent of the commercial development that destroyed so much of the character of our cities a generation ago, is being imposed on architects and building owners by the City Corporation in a well-meant attempt to safeguard this important area of the City from the wrong kind of building.

The City Corporation is guided by that, on the whole, enlightened document the Holford-Holden report, which sets out planning principles, as well as numerous recommendations for new streets and intersections, that it is clearly in the interest of the City to follow. The report also contains, notably in reference to the St. Paul's precinct, recommendations about architectural treatment about which the same cannot be said—at least if the recommendations are followed quite literally. Yet it appears that this is exactly what is happening. These general recommendations are being used by the City Corporation as a precise yardstick by which the external appearance of all buildings

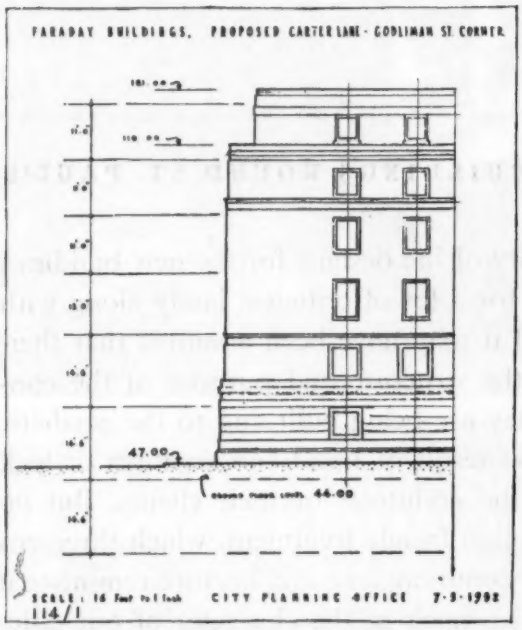
* This is a postscript to the more comprehensive article on the rebuilding of the City of London which appeared in THE ARCHITECTURAL REVIEW for June, 1954.

facing on to the precinct is judged for the purpose of approving the designs.

The relevant clause in the report is No. 118. It reads as follows:

> 'It was felt that a brick treatment for the buildings around the precinct would be the most appropriate, using Portland stone for the ground storey and for the stone dressings. The Ministry of Works are adopting this treatment for the Faraday House Extension fronting on to the precinct and will thereby establish the general precedent for the remaining buildings. It is not proposed, however, to extend the proposed architectural control to such details as entrances and window features.
>
> Levels for the main parapets have been established at 110 feet above Ordnance Datum (Newlyn) and at 121 feet above Ordnance Datum for the parapet of the set-back attic storey. The levels of the colour bands of brick walling and string-courses should be maintained throughout the precinct and its approaches.'

Though this does not demand a neo-Georgian treatment in so many words, it comes very near to doing so with its talk of string-courses, stone dressings and colour bands of brick walling, and it clearly makes—as it is intended to do—a contemporary design, expressive of contemporary structures, impossible. Now it happens that the consulting architect for the Faraday House extension mentioned in the report is Dr. Charles Holden, himself one of the authors of the report. He is also consultant to the Dean and Chapter of St. Paul's, and it is from him therefore that the City Corporation seeks guidance at every stage. Dr. Holden has designed a facade treatment which is in due course to be applied to the north side of the Faraday building, and, as a result of the literal interpretation of the clause quoted above by the City Corporation, the architects of all other buildings facing on to the precinct are being pressed to follow the same design; if not precisely, then very closely.



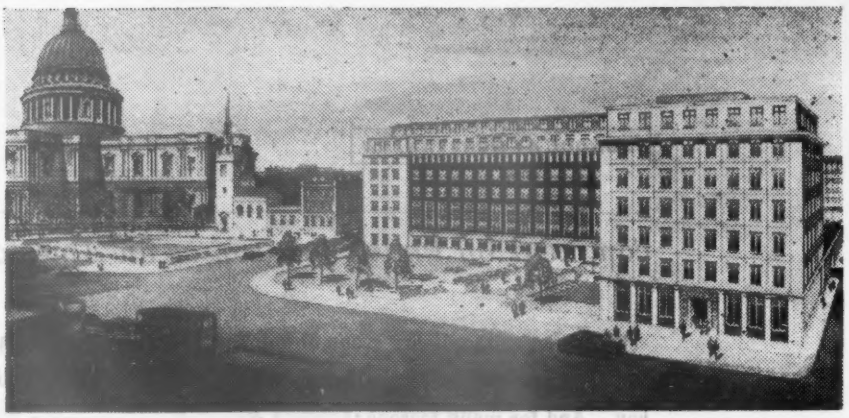
1, facsimile (reduced in size) of the document sent by the City planning office to architects designing buildings round St. Paul's. It embodies Dr. Holden's recommendations regarding cornice lines, string-courses, stone dressings, etc.

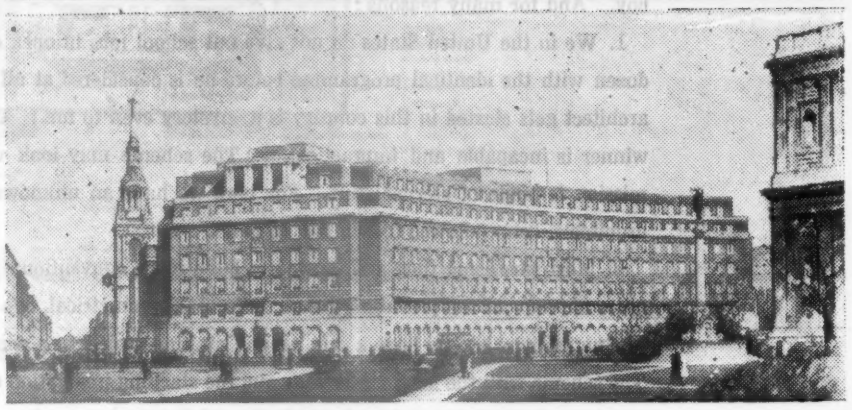
Dr. Holden has provided the City Corporation planning office with a drawing of a portion of his design for the Faraday building. This has been duplicated and a copy is sent for his guidance to every architect engaged to design a building in the area. This drawing is reproduced herewith, 1. Sketch designs, moreover, when completed are submitted to Dr. Holden and, if he requires them, modifications are made before approval of the design is given.

This procedure perhaps explains the puzzling nature of the design for Gateway House, south-east of St. Paul's, recently made public and commented upon in the REVIEW last month. It is clearly a compromise into which the neo-Georgian elements have not been fully integrated, and is the work of architects who, since the war, have designed a City office building in Bridewell Place, Blackfriars, of a far higher standard which is fresh and contemporary in design. It also explains the City Corporation's content with the much criticized, tamely neo-Georgian, design for the new Bank of England offices north-east of the cathedral.

These two buildings, Gateway House, 2, and the Bank of England offices, 3, are the only major buildings facing the St. Paul's precinct of which the designs have so far been approved—with the exception, presumably, of Dr. Holden's new front to Faraday House. It is not therefore too late for a change of mind on the part of the City Corporation to save the rest of the precinct from the fate to which the eastern side is already con-

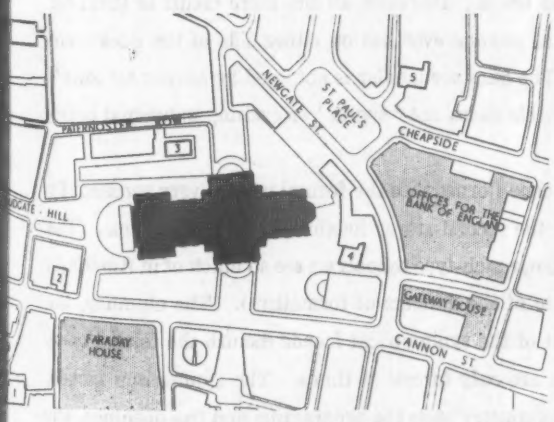
demned. More rebuilding is due on the south side and, what is more important, the whole of the war-damaged north side—with the exception of course of the Chapter House—is to be built up again soon. Most of the area behind belongs to the Church Commissioners, and either they or the City Corporation itself will be developing it as a whole—a grand opportunity for an imaginative piece of replanning in the very heart of the City, which would be half thrown away if a sequence of neo-Georgian facades on the side facing the cathedral were insisted upon.





2, the approved design for Gateway House, south-east of St. Paul's Cathedral. Architects, Trehearne and Norman, Preston and Partners. 3, the Bank of England offices now under construction north-east of St. Paul's Cathedral. Architects, Victor Heal and Smith.

The Holford-Holden report was fully justified in suggesting that special control should be exercised over the design of the buildings surrounding St. Paul's, and the City Corporation is only doing its duty in watching development here closely, especially the height and massing of new buildings in relation to the cathedral. Dr. Holden's actions, too, are undoubtedly the result of a sincere conviction that the policy he advocates, and which the City Corporation has hitherto followed at his behest, is in the best interest of the City. The writer nevertheless contends that this is the greatest possible mistake; that to rely, as Dr. Holden does, on a uniform system of profiles and cornice lines, fostering a tamely reminiscent architectural character and in effect forcing all new buildings into a stylistic strait-jacket, will only make the worst of both worlds. This policy is altogether stultifying to the architectural imagination, and its results so far are wholly undistinguished. They have not even the convictions possessed by the vigorous Victorian buildings that have gone or are going. Furthermore, a standard facade treatment is out of harmony with the traditional character of the City.



4, proposed new layout of the St. Paul's precinct. The darkened areas show the sites of the two buildings illustrated above and the Faraday House extension referred to in the article. North of the cathedral is the large bombed area due soon to be redeveloped. Key: 1, St. Andrew by the Wardrobe. 2, The Deanery. 3, St. Paul's Chapter House. 4, St. Augustine, Watling Street. 5, St. Vedast Foster.

It would represent no departure from the spirit of a report that the Corporation quite rightly values, if it were to drop its insistence on the literal implementation of this one clause and leave the new City architecture free, within more flexible safeguards, to express itself in a lively and contemporary way.

SCHOOL AT HUNSTANTON

comment by Philip Johnson as an American follower of Mies van der Rohe

This is an extraordinary group of buildings. To an American architect like myself, and especially to a Mies van der Rohe follower such as I have been, it seems probably more extraordinary than to an Englishman or a Frank Lloyd Wright boy. And for many reasons :

1. We in the United States do not give out school jobs in open competition. An architect must have already built a dozen with the identical programme before he is considered at all ; then he is picked by a committee. (How a young architect gets started in this country is a mystery even to me.) Competitions are frowned on. ' Maybe the unknown winner is incapable and impractical.' ' The scheme may look well only on paper ! ' Apparently the British Commission is made of sterner stuff. For here we have an unknown team, admittedly of talent but unknown as school architects, being allowed to win and to build.

2. Most surprising they are allowed to build not a conventional school, not even a Hertfordshire plan, but something quite opposite of the prevailing trend : a formal, symmetrical, two-storeyed project. What a jury !* It is the usual fate of competitions here to have a safe, second ranking project as a winner simply out of the desire of the jury for unanimity. The scheme with the least faults wins and the startling innovation comes in second. If a strange design should somehow be chosen as first its fate is to be shelved until the programme is sufficiently changed for a safe architect to be hired out of hand. ' Radical prize winners never get built ' is a safe axiom in this country. It would be interesting to find out how all these wonders come to pass in England.

3. The plan is not only radical but good Mies van der Rohe, yet the architects have never seen Mies's work. And though the Smithsons may not agree, much of the excellence of their work is a tribute not only to themselves but also to the genius of Mies van der Rohe.

For it is Mies who has codified the exposed steel-glass-and-brick-filled-frame grammar for the rest of us to use if we wish. Since designing this school the Smithsons no longer wish to use it ; therefore all the more credit to them for mastering and using the language so well—in my opinion as well as anyone ever has on either side of the ocean, not excluding the midwesterners who have worked directly with Mies. The Mies vernacular is not good by chance for Mies's main thesis is that architects should seek to create generally applicable ideas, not ' sports ' or exciting individual buildings. He will create so that others may build well.

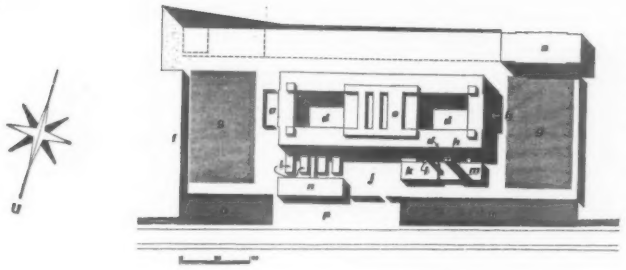
The Smithsons admittedly had their troubles. The programme is shoe-horned into the formal pattern very successfully (except the caretaker's ' cottage '). Especially good is the use of the second-storey height for the auditorium. (The up-sticking auditorium and gymnasium is the bane of the humanitarian, ranch-type schools we see so much of in America.) The things the architects could not force in stick out (which is one of the dangers of formalism). The chimney, the water tower and the kitchens by projecting asymmetrically in front of the symmetrical facade disturb the formal composition, which is so clear from the rear. But then the Smithsons are only formal at times. The gymnasium facade, the most formal, is also the most successful part of the building. Symmetry suits the programme and the openings, the framing and the brick are well proportioned indeed.

There are additional troubles inherent in any attempt to do Mies on the cheap. One should remember the reproach often thrown at Mies : ' As simple as possible, no matter what the cost.' It is correspondingly difficult to save money and keep the elegance. The Smithsons have succeeded in many ways, and where they have not I am sure they are not as displeased as I am apt to be. The glass panels, for example, are ingenious and show a fine tolerance that in itself is a tribute to the steel fabricators and erectors. This detail alone makes the building light in appearance and, I should imagine, reasonable in cost. On the other hand is there no other solution for roof leaders and electric conduit ?

4. Perhaps the most unusual place for an American to find a surprise is in the quality of the steel engineering. Much

* In fact, the scheme had a single assessor, Denis Clarke Hall.

[*continued on page 152*

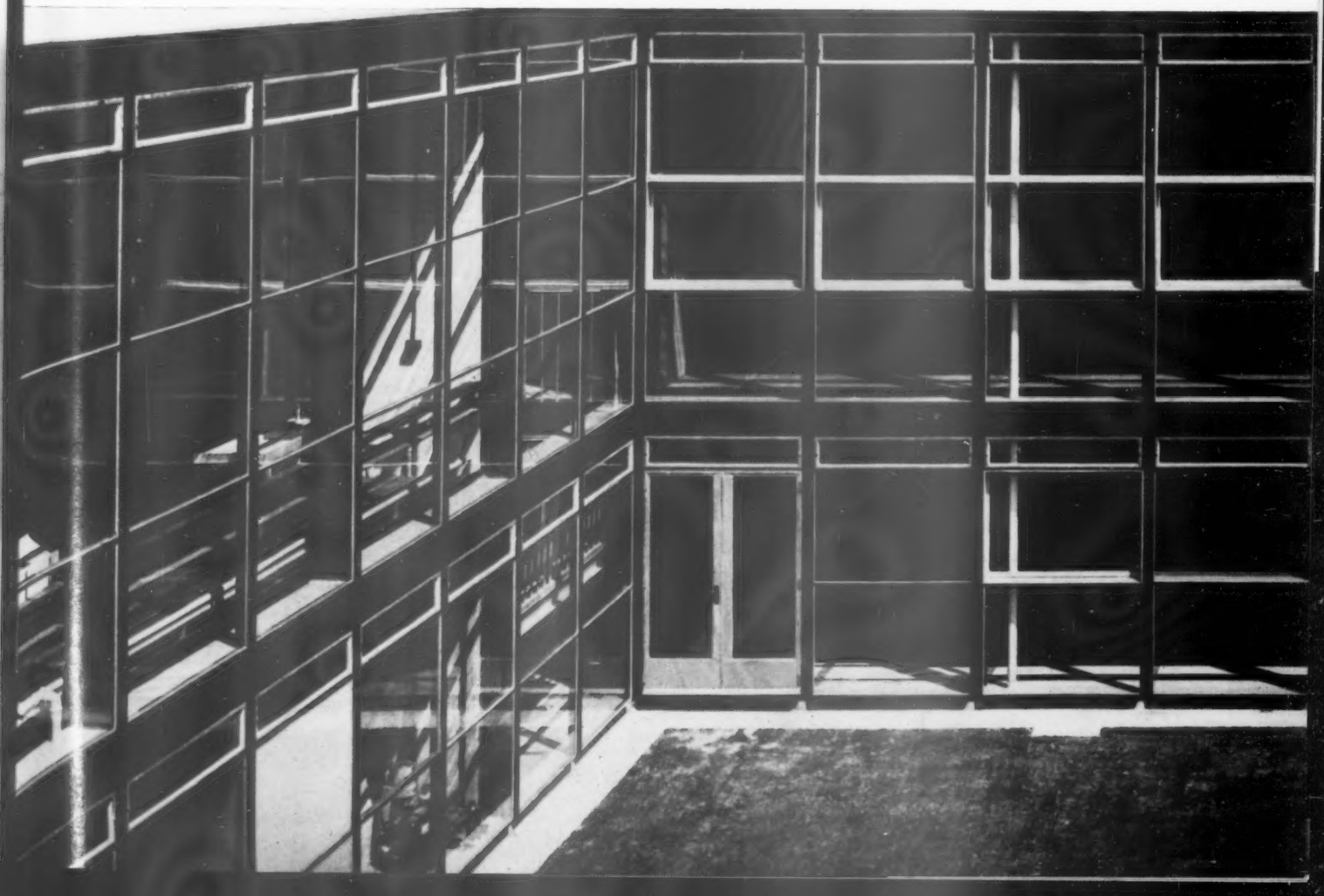


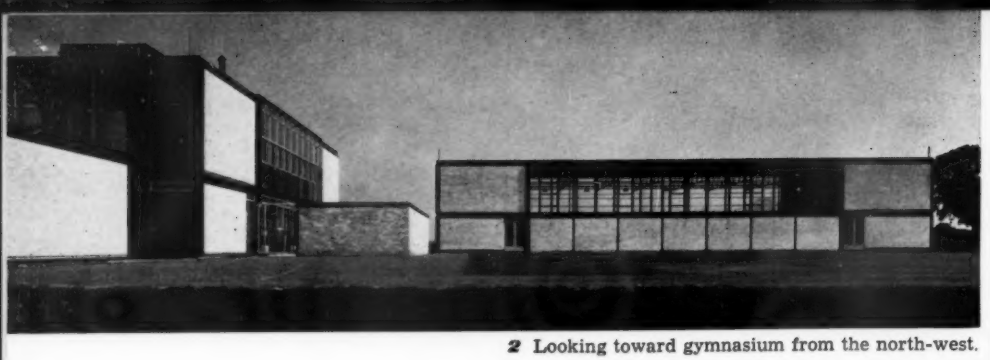
key
a, gymnasium and changing rooms.
b, caretaker's garden.
c, school garden.
d, green court.
e, main block.
f, 7 ft. high wall.
g, pitch.
h, water tower.
i, cycle sheds.
j, forecourt.
k, kitchen.
l, chimney.
m, adult housecraft.
n, workshops.
o, revetment.
p, car park.

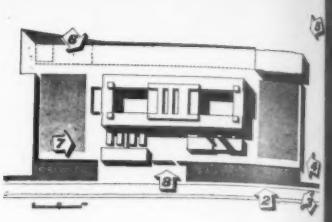
SCHOOL AT HUNSTANTON NORFOLK

ARCHITECTS | **ALISON AND PETER SMITHSON**

1, The fully-glazed walls of the more easterly of the two interior courtyards.



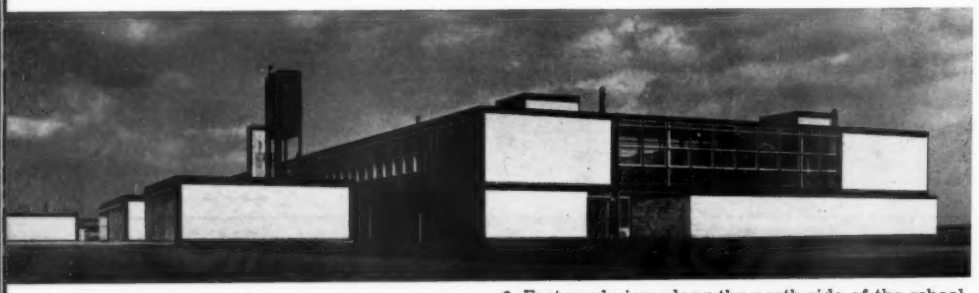




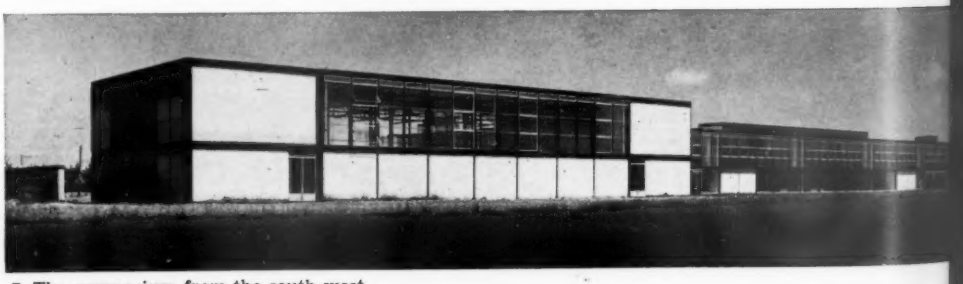
2 Looking toward gymnasium from the north-west.

SCHOOL AT HUNSTANTON

3 The western end of the main block.

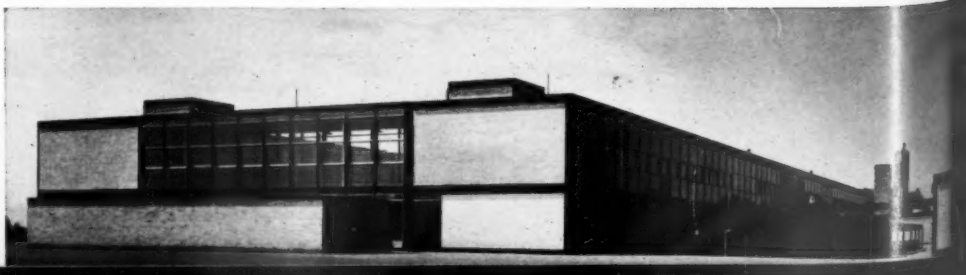


4 Eastward view along the north side of the school.

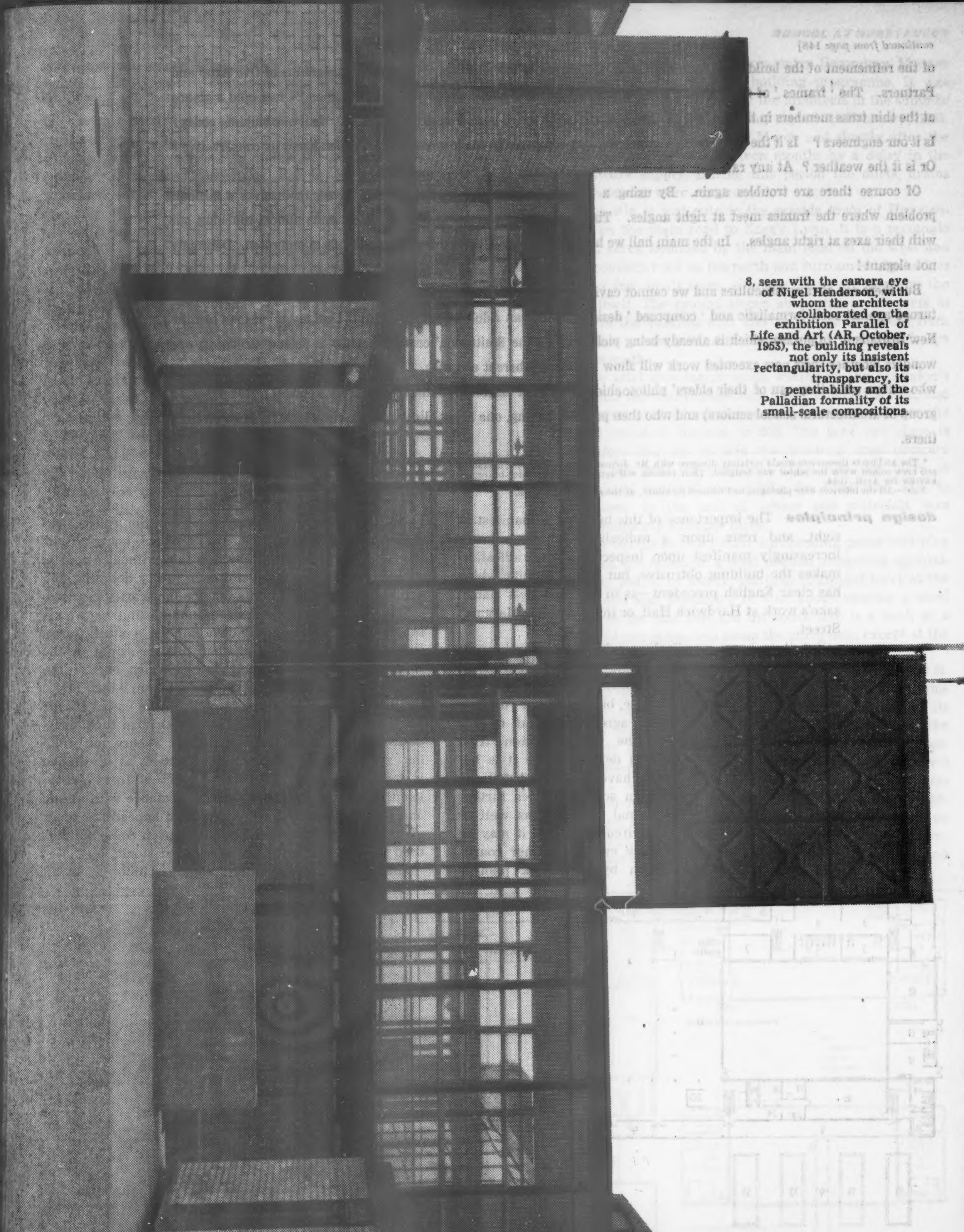


5 The gymnasium from the south-west.

6 The entire complex of buildings seen from the south-east.



7 The eastern end of the main block.



8, seen with the camera eye of Nigel Henderson, with whom the architects collaborated on the exhibition Parallel of Life and Art (AR, October, 1953), the building reveals not only its insistent rectangularity, but also its transparency, its penetrability and the Palladian formality of its small-scale compositions.

continued from page 148]

of the refinement of the building is certainly due to the efforts of the Smithsons' engineer, Mr. Jenkins of Ove Arup and Partners. The ' frames ' of the building allow a 9-inch I-beam (a shape we do not have) to span 24 feet, and a glance at the thin truss members in the photograph is enough to make us (at least Americans) wonder. Is it our building codes ? Is it our engineers ? Is it the high cost of engineering fees compared to the low cost of steel which keeps us conservative ? Or is it the weather ? At any rate, our steel is heavier.

Of course there are troubles again. By using a ' frame ' system the architects have given themselves a difficult problem where the frames meet at right angles. Their solution is to have two separate columns almost touching but with their axes at right angles. In the main hall we have, for example, three different conditions in one room. Definitely not elegant !

But there are always difficulties and we cannot cavil in the face of so much distinction. Now that the Smithsons have turned against such formalistic and ' composed ' designs toward an Adolf Loos type of Anti-Design which they call the New Brutalism* (a phrase which is already being picked up by the Smithsons' contemporaries to defend atrocities) one wonders whether their new executed work will show the same inherent elegance. I like to think of them as youngsters who utilize what they can of their elders' philosophies (a sounder beginning than the ' express yourself at twenty-one ' group of architectural school seniors) and who then proceed, having, one hopes, digested their early lessons, to go on from there.

* The architects themselves would certainly disagree with Mr. Johnson's separation of Hunstanton from the New Brutalist canon, even though the term had not been coined when the school was designed. Their reasons will appear from the notes below, and to some extent, from page 274 of the ARCHITECTURAL REVIEW for April, 1954.

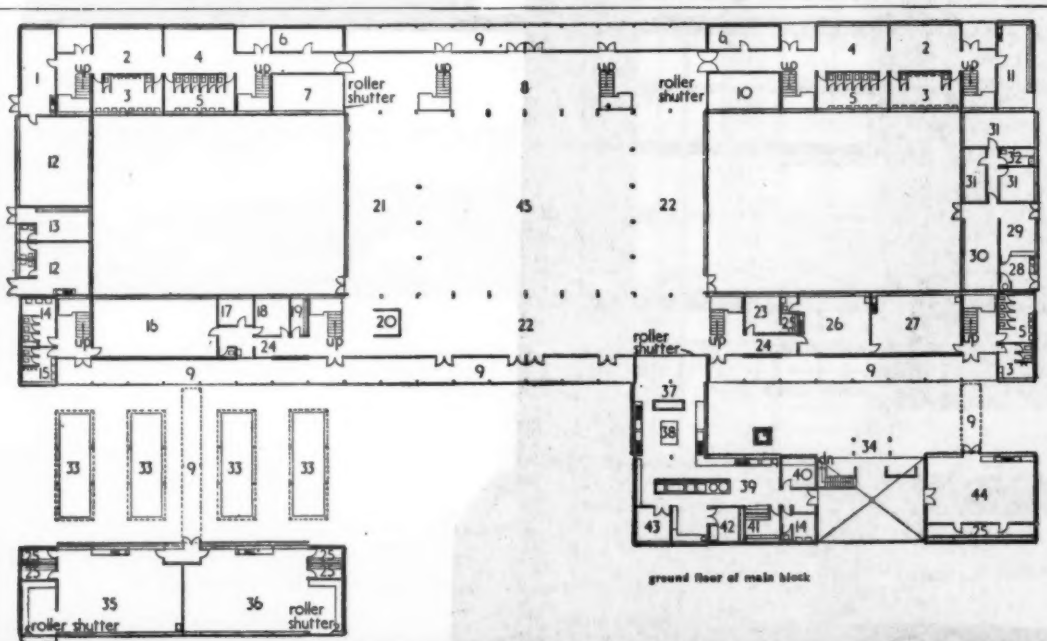
Note:—All the interiors were photographed without furniture, at the architect's request.

design principles The importance of this building is manifest at sight, and rests upon a radicalism, which becomes increasingly manifest upon inspection. This radicalism makes the building obtrusive, but it is a quality which has clear English precedent—as in the architects' namesake's work at Hardwick Hall, or in All Saints', Margaret Street.

But it is here a radicalism which owes nothing to precedent, and everything to the inner mechanisms of the Modern Movement. It does not merely imply a special kind of plan or structure, but a peculiar ruthlessness—overriding gentlemen's agreements and routine solutions—which pervades the whole design from original conception to finished details. While it is but one of many designs which have lately rejected the loose disorder of the free-plan school, it goes further than any in insisting on formal legibility, as well as compactness and economical circulation, and it may be read from all sides as a block enfolding inner courts. The architectural gain given by the block plan is balanced by the risk of squalor in interior courts, and if the architects' claim that ' It is a school, not a prison ' is justified, it is because they saw that without a radical solution to the courtyard problem, pretty detailing and applied art-work could only make a more artistic prison.

Their solution implied maximum glazing as a first principle, and that in its turn implied a steel frame. But such a frame was another first principle in the conception of the classroom blocks which enclose the courts, carried in H-frames welded up from 9-inch RSJ's, the 9-inch dimension being implicit in the use of Plastic Theory as a stressing discipline, and that, in turn, made possible by welding. But both Plastic Theory and welding stem from a conception of steel as a unique material—not as a kind of abstract stiffness cut to length, but as a ductile, weldable substance with elastic and plastic limits, a surface, feel, and appearance of its own, to be appreciated and used as Queen Anne builders used brick, or Regency engineers used stone.

That is why architects and engineer unite, as in all



ground floor of main block

key
1, conservatory.
2, boys' cloaks.
3, boys' lavatory.
4, girls' cloaks.
5, girls' lavatory.
6, drying room.
7, props store.
8, south exit.
9, covered way.
10, chair store.
11, caretaker.
12, gardencraft.
13, gardener.
14, women staff lavatory.
15, men staff lavatory.
16, staff room.
17, assistant head.
18, head.
19, secretary's store.
20, secretary's cubicle.
21, green rooms.
22, dining area.
23, warden.
24, waiting.
25, store.
26, ante room.
27, medical inspection room.
28, kitchen.
29, dining.
30, living.
31, bedroom.
32, bathroom.
33, bicycle sheds.
34, water tower.
35, metalwork room.
36, woodwork room.
37, servery.
38, wash-up.
39, main kitchen.
40, vegetable preparation.
41, dry store.
42, larder.
43, supervisor.
44, adult housecraft room.
45, hall.

other matters, in asserting that theirs is a traditional building, free from the sentimentalism of Frank Lloyd Wright or the formalism of Mies van der Rohe. This may seem a hard saying, since Mies is the obvious comparison, but at Hunstanton every element is truly what it appears to be, serving as necessary structure and necessary decoration. The brick panels in the end elevations are not only there to set off the glass visually, nor only to provide necessary blank walls internally, nor only to stiffen the frame—though that in Plastic Theory they must do. They were conceived from the very first, as were all other elements, as performing structurally, functionally and decoratively as parts of an integrated architecture.

This imposes an existential responsibility upon the architect for every brick laid, every joint welded, every panel offered up, for, apart from pipes laid in ducts (in the interests of maintenance and because a duct could serve to resist overturning moments), apart from these, literally every structural and functional element is visible, and, since there is nothing else to see, they are the totality of the architectural elements. For this reason the architects must scrutinise every subcontractor's drawing, and the Clerk of Works begins to resume an almost forgotten status.

Equally, there must be a new æsthetic of materials, which must be valued for the surfaces they have on delivery to the site—since paint is only used where structurally or functionally unavoidable—a valuation like that of the Dadaists, who accepted their materials 'as found', a valuation built into the Modern Movement by Moholy-Nagy at the Bauhaus. It is this valuation of materials which has led to the appellation 'New Brutalist', but it should now be clear that this is not merely a surface æsthetic of untrimmed edges and exposed services, but a radical philosophy reaching back to the first conception of the building. In this sense this is probably the most truly modern building in England, fully accepting the moral load which the Modern Movement lays upon the architect's shoulders. It does not ingratiate itself with cosmetic detailing, but, like it or dislike it, demands that we should make up our minds about it, and examine our consciences in the light of that decision.

general This is a three-form entry Secondary Modern School in the 1950 MOE building programme. It was won in open competition by the architects in the summer of 1950 and the contract was signed in February, 1951. Work began on the site in March and shortly after the job was held up for fourteen months by a delay in the steelwork supply. During this period the ducts, drains and site slab were constructed.

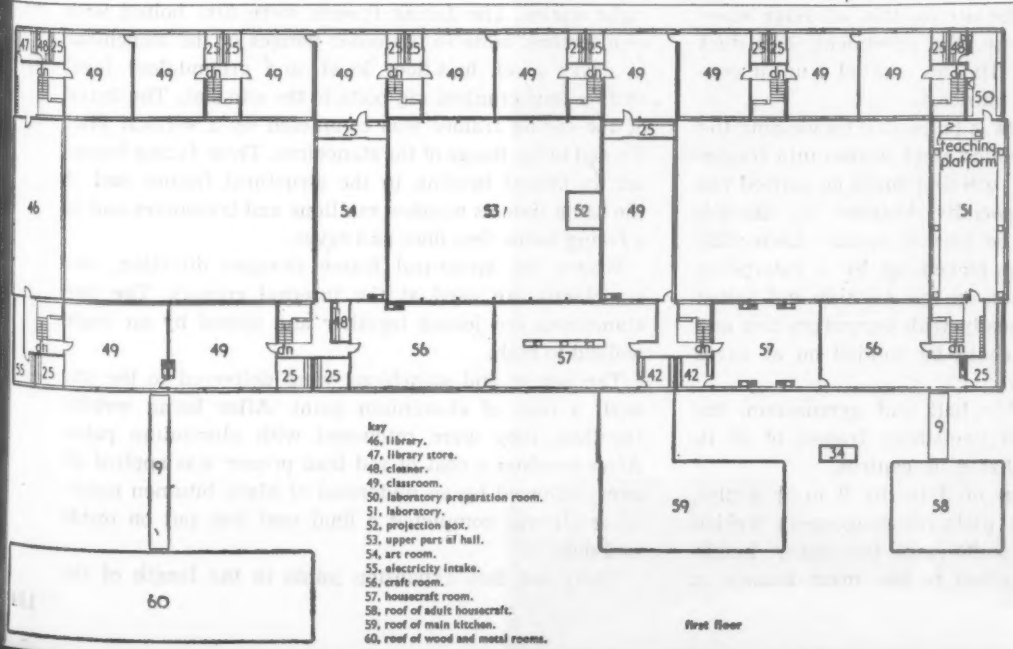
The site is just outside the seaside town of Hunstanton, on the main road to King's Lynn. It is a rectangle of 22 acres, bounded by the main road on the west and a secondary road on the north and surrounded by hedges and a few small trees, although there are none on the site itself. The ground slopes about one in 260 west to east in the building area and about one in 330-400 from north to south, with a pleasant view of rural landscape to the south.

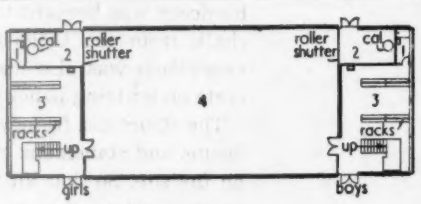
The total area inside walls, excluding the caretaker's flat and the adult housecraft room, is 45,748 sq. ft., and the number of school places, calculated according to the MOE standard method, is 510. The area per place is therefore 89.7 sq. ft. and the teaching area occupies 61.25 per cent of the total. The cost per place at letting of contract was £258; the final cost, due to increases in the cost of labour and materials, was approximately £290 per place.

The buildings, with their surrounding paths and play pitches, are raised on a level podium measuring approximately 240 ft. by 600 ft., starting at ground level at the west end and finishing 2 ft. 3 in. above existing ground level at the east end. On the south side is a bank at a slope of one in ten and along the north side, except at the entrance and car park, there is a ha-ha.

The main block, which is a long rectangle about 290 ft. by 103 ft. with two courtyards 52 ft. by 72 ft., contains all the accommodation except the gymnasium with its changing rooms, the wood and metal workshops, the kitchen, the adult housecraft room and the boiler-house.

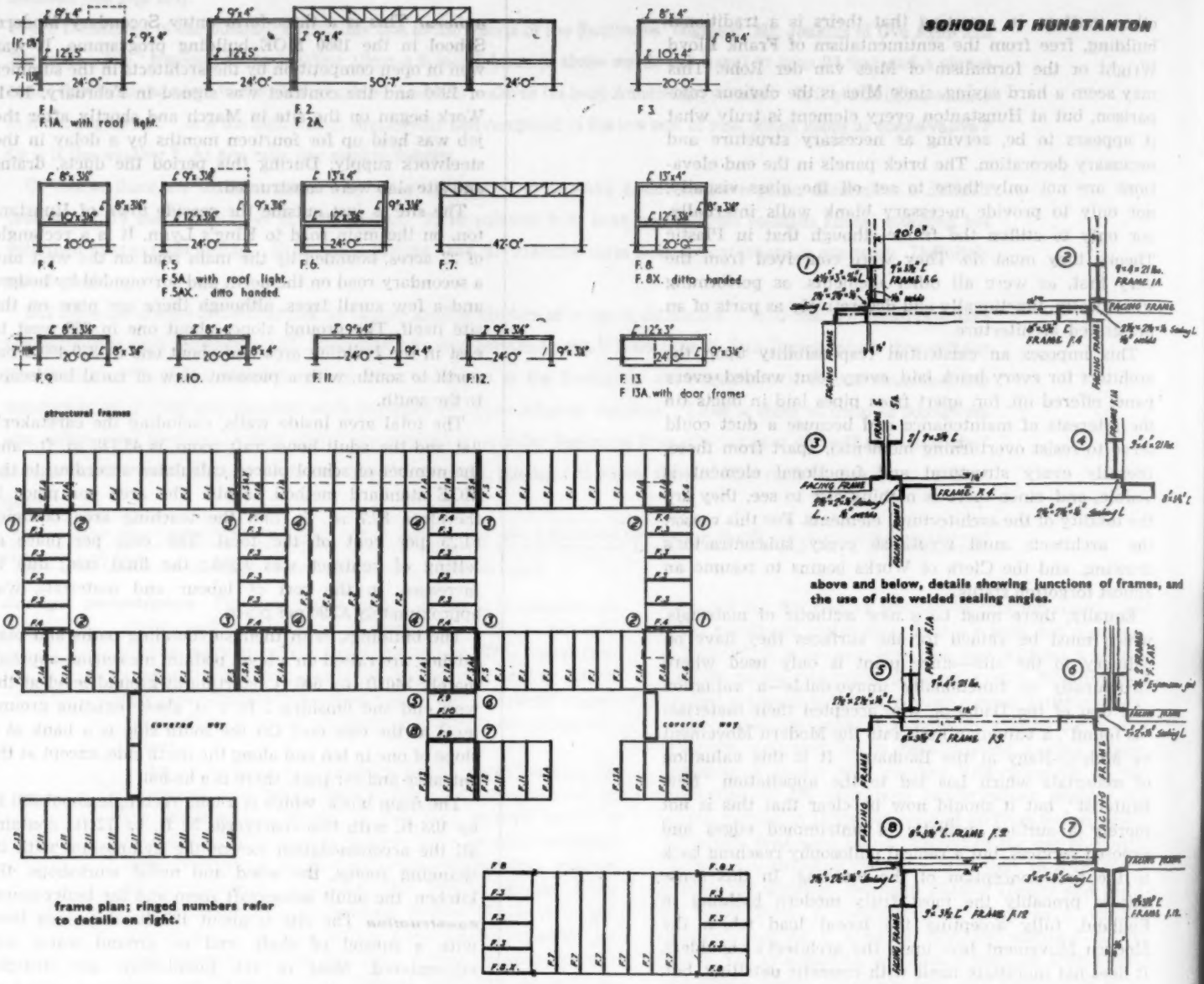
construction The site is about 107 ft. above sea level with a subsoil of chalk and no ground water was encountered. Most of the foundations are straightforward, although some of the stanchions are carried on the walls of reinforced concrete service ducts. The construction of the podium involved considerable filling and





key
1, instructor.
2, store.
3, kit store.
4, gymnasium.

5, lavatory.
6, changing room.
7, showers.
8, upper part of gym.



hardcore was brought to the site for this, although some chalk from the boiler-house, the revetment, and duct excavation was also used. The site slab is 4 in. of concrete on building paper on hardcore.

The structural framework is fabricated by welding the beams and stanchions of rolled steel section into frames on the site. So that all the welding could be carried out down hand, a jig was specially designed for the job to allow each frame to be turned upside down. The complete frame was then picked up by a caterpillar crane, carried to its position on the site slab and bolted down. It was then held steady with temporary ties and bracing until angle ties could be welded on at eaves and floor level.

Apart from the assembly hall and gymnasium, the building is constructed of two-storey frames of 20 ft. or 24-ft. span placed at 10 ft. 4 in. centres.

Facing frames, built up of 3 in. by 2 in. $\frac{1}{4}$ angles, 3 in. by $\frac{3}{8}$ in. flats in $\frac{1}{4}$ in. plate pressings, were welded together into full bay width and two-storey height on the site and then applied to the main frames at right angles. The facing frames were first bolted with countersunk bolts to the outer flanges of the stanchions at eaves level, first-floor level, and ground-floor level and by four cranked rag bolts to the site slab. The fixing of the facing frames was completed by a vertical fillet welded to the flange of the stanchions. These facing frames act as lateral bracing to the structural frames and at the same time as window mullions and transomes and as a facing to the first floor and eaves.

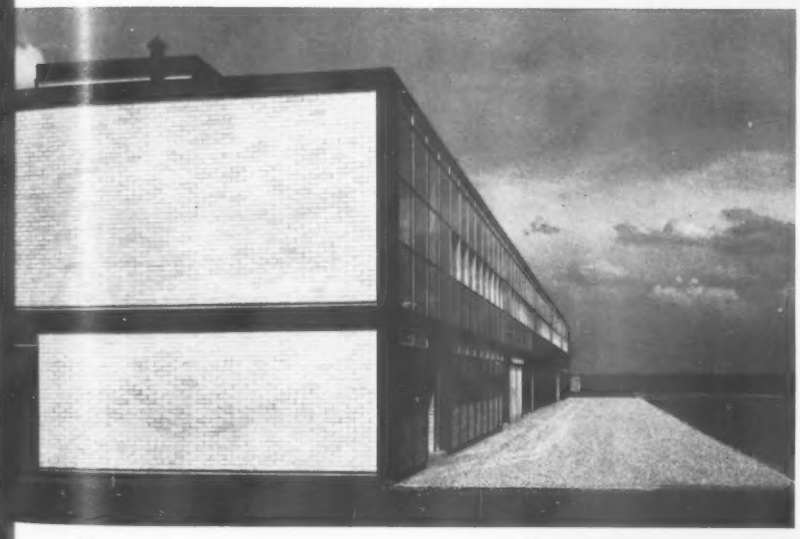
Where the structural frame changes direction, two stanchions are used at the internal corners. The two stanchions are joined together and sealed by an angle welded to both.

The beams and stanchions were delivered to the site with a coat of aluminium paint. After being welded together, they were retouched with aluminium paint. After erection a coat of red lead primer was applied all over, followed by an undercoat of black bitumen paint; after all was completed a final coat was put on inside and out.

There are two expansion joints in the length of the

Raking perspectives down the side of the main block can reveal a constructivist complexity, 9, of spaces and structural units, or of the pure prism of the block, square-cut on its rectangular podium, 10, while the reverse view

9



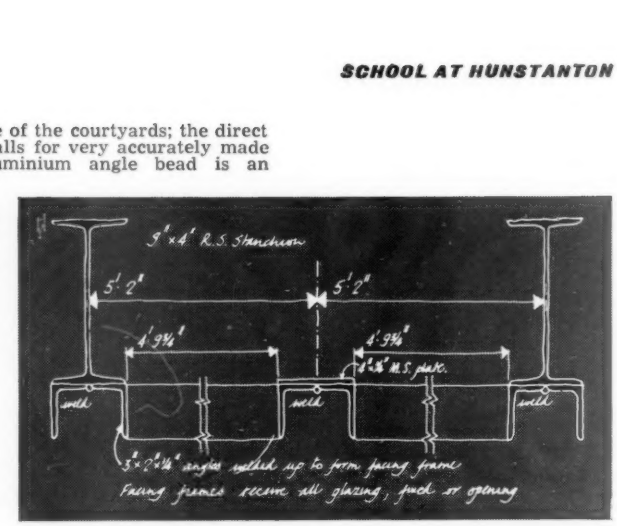
10

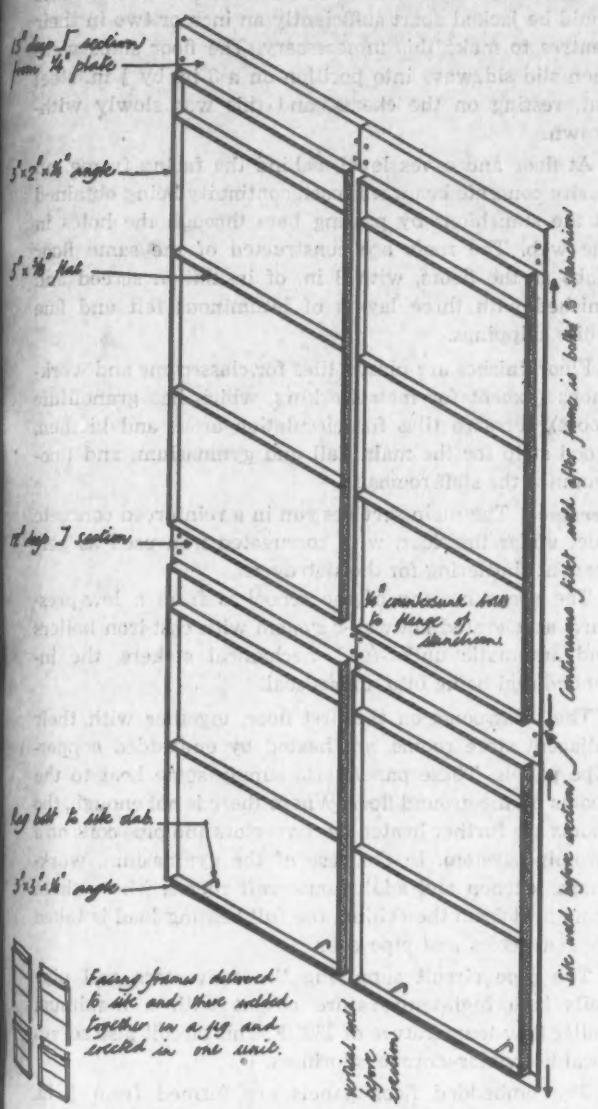
along the southern side of the building, 11, shows the gymnasium standing off, a sculptural unit in its own right, and a summation in little of the essential features of the larger block.

11

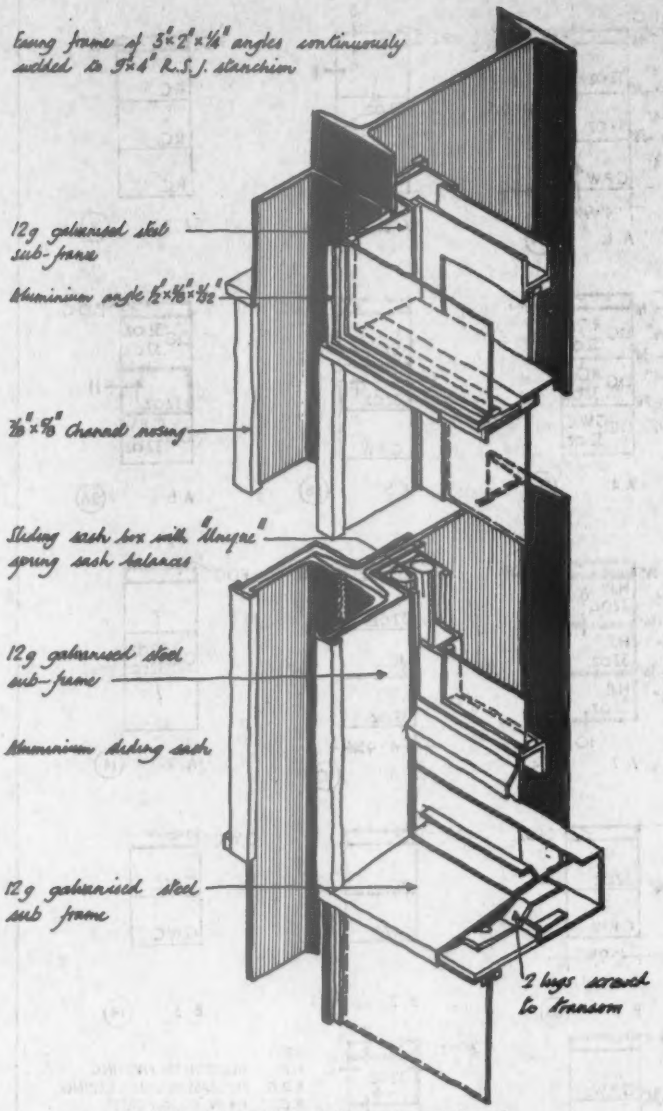
12

12, a wall detail in one of the courtyards; the direct glazing shown here calls for very accurately made steel work. The aluminium angle bead is an extruded section produced by the new cold impact methods which are said to produce high physical properties due to work hardening and a better metal structure.





an isometric view of the facing frames as welded together for bolting to the structural work.



detail of vertical sliding window and pressed steel sub frames bolted to facing frame.

main block. These are filled with two pieces of $\frac{3}{8}$ in. impregnated cane fibreboard, covered with a 2 in. by $\frac{1}{4}$ in. flat fixed one side only, inside and out.

The facing frames welded to the main frames are glazed directly without sub-frames, the walls on the south and west being single glazed and the north and east walls double glazed. $\frac{1}{4}$ in. wired glass is used up to 3 ft. 4 in. above floor level and a 12 in. horizontally pivoting ventilator is used continuously round the building on both floors. Specially designed vertical and horizontally sliding windows are also used.

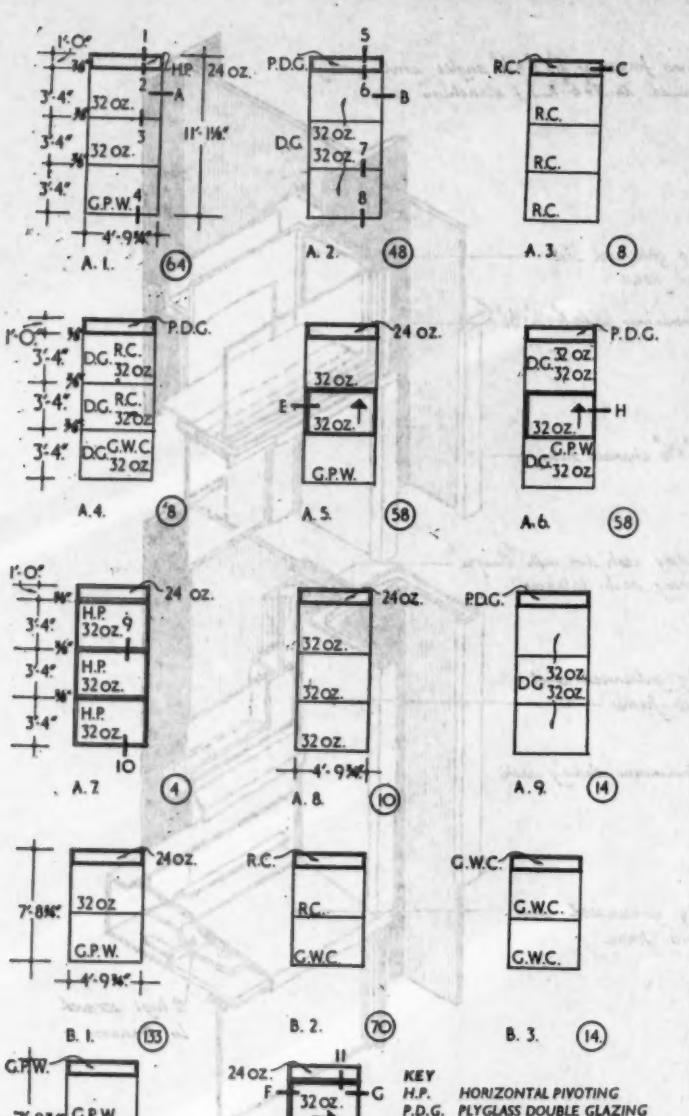
Direct glazing in this way calls for very accurately made steelwork, and the glazing subcontractors asked for tolerances of 1/16 in. between the frames. Their opinion now is that the accuracy achieved by the manufacturers of the steelwork was sufficient and only fifty squares of glass had to be trimmed.

The external walls are mostly glazed, but some have panels of yellow gault bricks. These walls are of two $4\frac{1}{2}$-in. skins, with the outer face of the inner skin painted with two coats of thick bitumen paint. Where the brickwork abuts steelwork, wire reinforcement is used vertically and horizontally and fixed to the steel with bolts and washers fired from a rapid hammer gun. Where brickwork had to be cut round steel members a small circular saw bench with an $\frac{1}{8}$-in. carborundum cutting wheel was used.

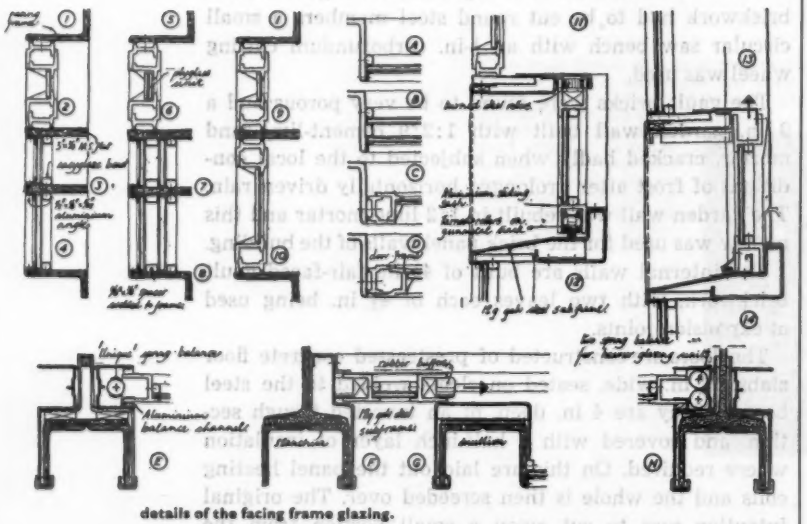
The gault bricks were found to be very porous and a 9 in. garden wall built with 1:2:9 cement-lime-sand mortar, cracked badly when subjected to the local conditions of frost after prolonged horizontally driven rain. The garden wall was rebuilt in 1:2 lime mortar and this mortar was used for the brick panel walls of the building.

The internal walls are built of $4\frac{1}{2}$ in. fair-faced gault brickwork, with two leaves each of $4\frac{1}{2}$ in. being used at expansion joints.

The floors are constructed of prestressed concrete floor slabs, 16 in. wide, seated on cleats welded to the steel beams. They are 4 in. deep, of an inverted trough section, and covered with a half-inch layer of insulation where required. On this are laid out the panel heating coils and the whole is then screeded over. The original intention was to cut away a small portion from the upper edge of the RSJ to allow the floor slabs to be



the glazing assemblies used within the facing frames; the numbers in the brackets indicate the quantities used.



details of the facing frame glazing.

dropped in, but it was found that the steel members could be jacked apart sufficiently an inch or two in their centres to make this unnecessary. The floor slabs were then slid sideways into position on a 3 in. by ¼ in. steel flat, resting on the cheats, and this was slowly withdrawn.

At floor and eaves level, behind the facing frame, an *in situ* concrete beam was cast, continuity being obtained at the stanchions by passing bars through the holes in the web. The roofs are constructed of the same floor slabs as the floors, with 3 in. of insulation screed and finished with three layers of bituminous felt and fine white chippings.

Floor finishes are plastic tiles for classrooms and workshops (except for metalworking, which has granolithic floors), terrazzo tiles for circulation areas and kitchen, wood strip for the main hall and gymnasium, and linoleum for the staff rooms.

services The main services run in a reinforced concrete duct under the floor, with corrugated iron used as permanent shuttering for the slab over.

The space heating of the school is from a low-pressure, accelerated hot-water system with cast-iron boilers and automatic under-feed mechanical stokers, the intended fuel being bituminous coal.

The classrooms on the first floor, together with their adjacent store rooms, are heated by embedded copper-pipe panels. These panels also supply some heat to the rooms on the ground floor. Where there is not enough, the rooms are further heated by convectors and pipe coils on a two-pipe system. In the case of the gymnasium, workshops, kitchen and adult housecraft rooms, where there is no heat from the ceiling, the full heating load is taken by convectors and pipe coils.

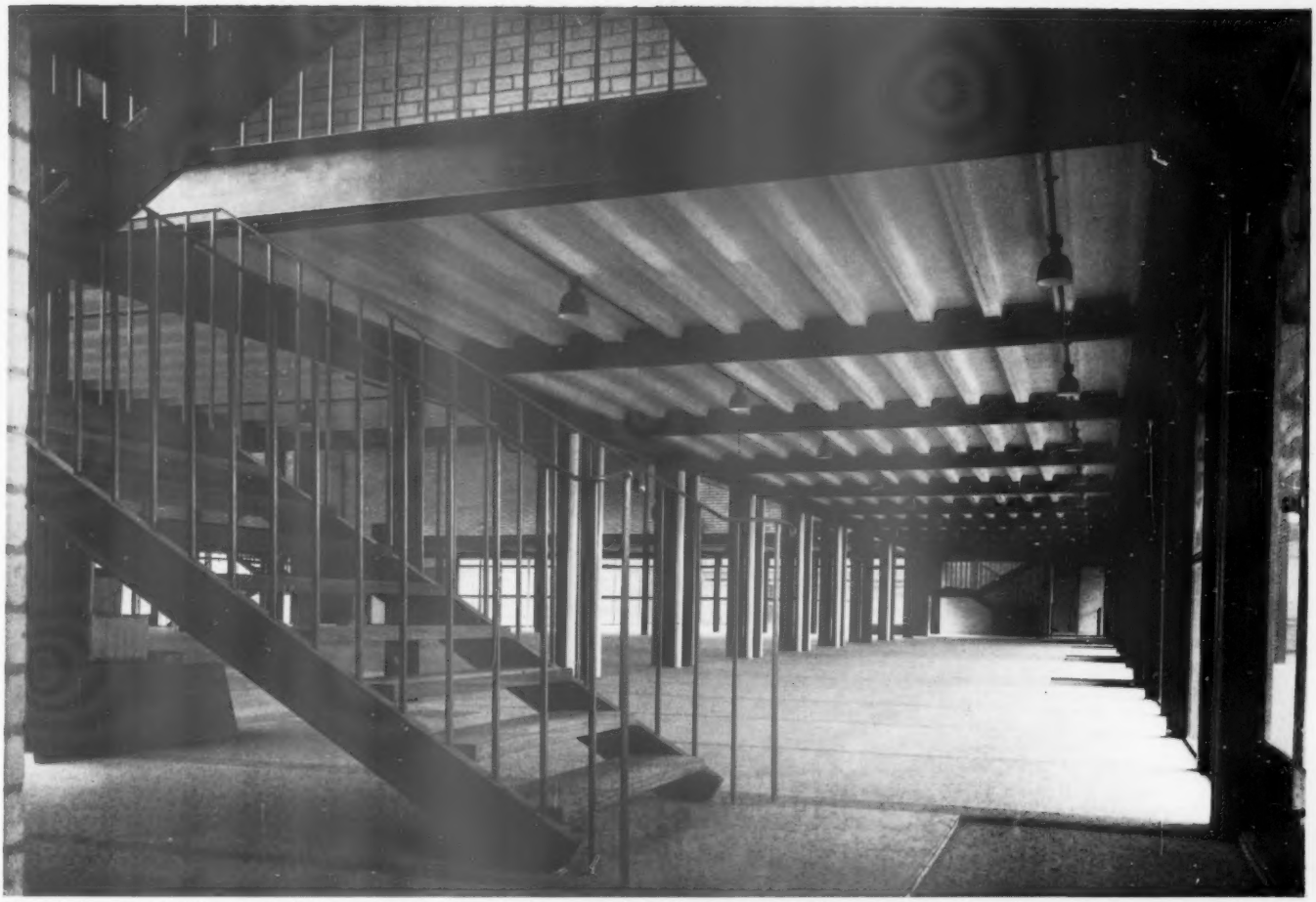
The pipe circuit supplying the convectors and pipe coils is a high-temperature circuit with a maximum boiler flow temperature of 180° F. This circuit also serves local hot-water-storage calorifiers.

The embedded floor panels are formed from ½ in. nominal bore copper tube to BS 1386/47 of 18 SWG. The separate coils are connected in parallel to the low-temperature circuit mains through horizontal header pipes fixed above the floor in a store or convenient position. The separate coils were designed to have an equal friction resistance not exceeding 7 ft. so as to give an even heat output.

Economy in pipework was considered and cut lengths greater than 15 ft. were used again. The joints used are capillary fittings using silver solder. The coils have to penetrate the web of the 24 ft. span RSJ and they are insulated at these points against electrolytic action by a split taper plug. In all first-floor teaching rooms, except those facing south and those facing east and west with one outside wall only, 1½ in. pipe coils on the high-temperature circuit are fixed at low level under the windows to prevent down draughts.

Four forced-flow convectors are used in both the main hall and the gymnasium controlled by a thermostat. The duct work in the main hall is arranged so that fresh air can be drawn in in the summer.

A time switch was required to change over to a night setting of approximately 50 per cent day load. It is intended that night setting should operate at week-ends. There are also manually operated valves to prolong either the day or night setting.



13

The staircases at either end of the entrance-foyer to the assembly-hall, show in 13 above the elegant and unassuming management of the hand-rails, in the manner of an older functional tradition, while the view from underneath, 14, shows the care and precision with which steel, welding and wood have been brought together.

14

15
16 | 17

18

19

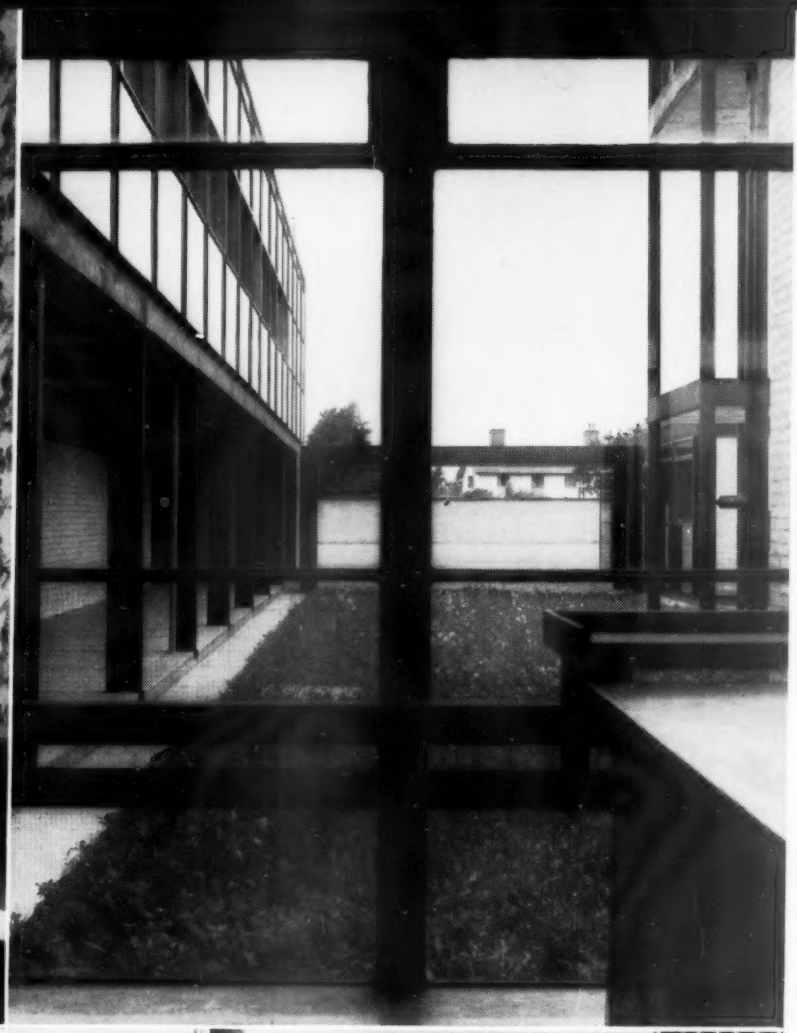
20

21

22

15 and 16, opposite, two views of the assembly hall, looking north-east into east green-court with bicycle sheds beyond, and looking south-west, showing suspended projection box. 17, opposite, gymnasium, looking west with exit to boys' changing rooms. 18, housecraft room on the north side before installation of equipment. 19, gymnasium changing-room with galvanised wire racks for towels and clothing. 20, general purpose room, west of hall, with way up to projector box. 21, laboratory, showing supporting angles on walls to which benches and equipment will be clamped. 22, library, showing the skirting coil which prevents down-draughts from glazed areas. 23, servery and wash-up, looking through into the west dining area.

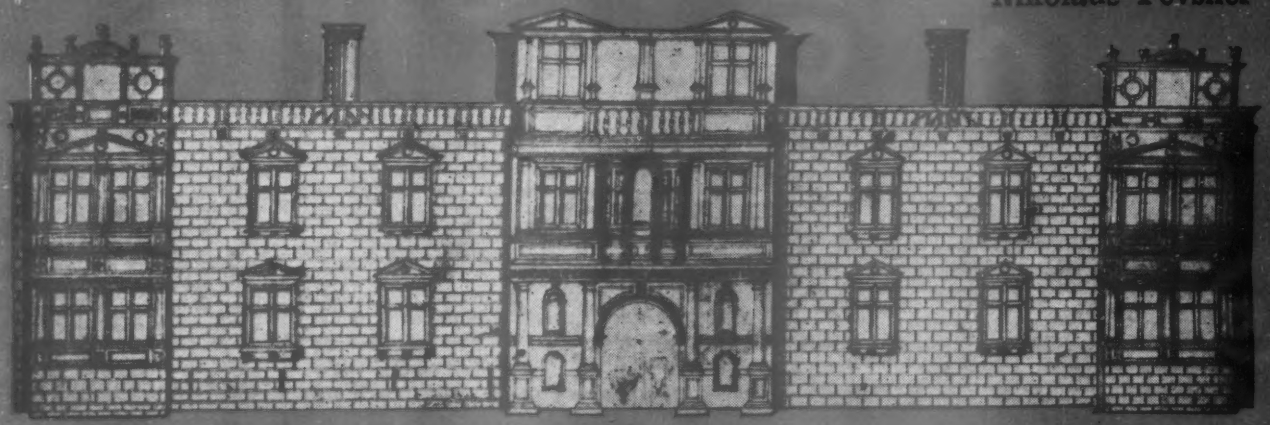
23



24, end wall of staff room; the convector front has been removed. 25, kitchen court, looking west from servery. 26, detail of child's wash-basin shown fixed to supporting angles. 27, detail of staircase to north-east of hall looking through into east green-court.

OLD SOMERSET HOUSE

Nikolaus Pevsner



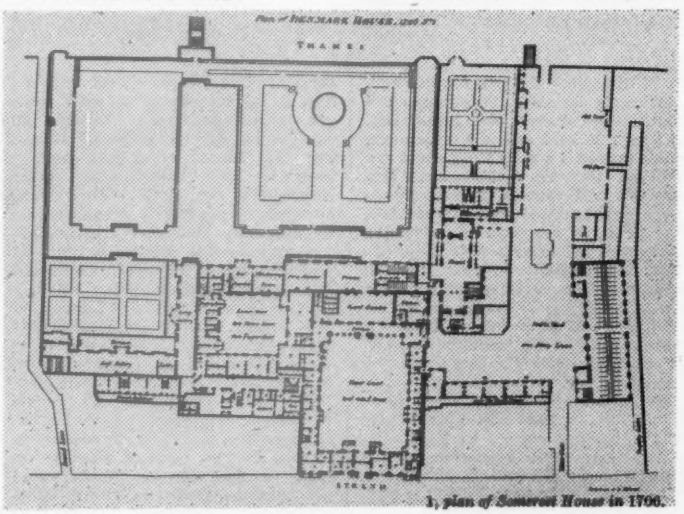
Lately recognized as the probable fountainhead of Elizabethan architecture, Old Somerset House showed the first real understanding in England of the true nature of the Rennaissance. Several writers have drawn attention to its front towards the Strand, seen in John Thorpe's drawing above, on both these scores, but in the article below, Professor Pevsner indicates the equal importance of other features of the design.

Old Somerset House had to wait long for recognition. It does not appear in Gotch's *Early Renaissance Architecture in England*.[1] That it might represent the entry into England of an understanding of the Renaissance and at the same time the beginning of the Elizabethan style, was, I think, first considered by Avray Tipping in the Introduction to *English Homes*, part 2, volume 1, that is in 1924,[2] and first stated with convincing arguments by Dr. M. Whinney in lectures in 1945. In the three recent books on Elizabethan and Jacobean architecture[3] the position of Old Somerset House is established. Mr. Lees Milne stresses 'a French flavour, such as Philibert de l'Orme and Jean Bullant imparted on their designs' and adds a caution to the effect that certain motifs of Bullant must be derived from Serlio; Dr. Whinney also comments on the 'French manner' of Somerset House and suggests that it may be dependent on Anet, and Mr. Whiffen is equally certain of 'French models' and singles out Ecouen for comparison.

But all three authors are brief in their remarks and, besides, they only discuss the front of the building towards the Strand. So there may be some scope left for a more detailed investigation of the building, including its plan and its frontages towards the inner courtyard. For all this one is confined to old drawings and engravings; for the building was entirely demolished, when in 1776 Sir William Chambers's new Somerset House was begun.

The plan and the elevation towards the Strand are known from Thorpe,[4] 8. The plan, placed immediately above the elevation, is confirmed in its principal features by a more detailed plan of 1706, 1, illustrated in Pegge's *Curialia*.[5] However, whether the whole building with its four ranges, and indeed the additional smaller east court and the Long Gallery beyond, all belong to the Lord Protector's time cannot be proved. We are lamentably short of dates referring to the building. Somerset was made Protector in March, 1547, at the age of about forty. He was executed in January, 1552 How much can have been done in these less than five years of which about seven months were spent in the Tower? Blomfield says without indicating any source that over £10,000 went into the building between April, 1548, and October, 1550.[6] It is known that the stones of the cloister of Old St. Paul's were used, and the demolition of this began in April, 1549.[7] John Knox blamed Somerset, because he was so engrossed in the progress of his house that 'he wald ga visit his masonis, and wald not dainyie himself to ga frome his gallerie to his hall for heiring of a sermone.'[8] The Hall of Somerset House was in the river range, and the Gallery ran south-north a good deal further east. Stow in the 1603 edition of his *Survey of London* mentions a screen at St. Bride's church nearby which was 'prepared . . . to be set up in the hall of the Duke of Somerset's house at Strand,' bought by the church for £160, and erected as a partition between the old and new work in 1557.[9] This is further proof that the Hall existed in 1557. The next reference to the house is of 1575, an estimate for work to be done, because the kitchen-floor and the floor outside the gallery had fallen down.[10] So the Gallery was not quite recent in 1575, or else the access to it would have hardly been out of repair. Stow calls Somerset House in 1598 'that large and goodly house,' but he also says in another place 'that large and beautiful house, as yet unfinished.'[11] That is little to help in the dating of Somerset House. After the Protector's death it went to the Crown, and was much used in the sixteenth and seventeenth centuries. It was the house of Anne of Denmark, James I's Queen, and at that time changed its name to Denmark House. Much repair work is recorded for 1608–11. About 1638 Inigo Jones made designs for interior and exterior work, and a new river front was begun in 1661, 9. It was, however, abandoned in 1664.

To proceed now to an assessment of the historical significance of the Lord Protector's building, I wish to assume for the time being that the whole plan and execution of all four ranges round the main courtyard belong to his years. Reasons for this assumption will be put forward, as we go on. The façade towards the Strand, being the only familiar feature, may be taken first. In its symmetry and its general rhythm it looks more Renaissance than it is, 10. It actually con-



1, plan of Somerset House in 1700.

[1] London, 1901.

[2] But James Ralph in *A Critical Review of the Publick Buildings . . . in and around London*, 1734, calls Somerset House 'the only fabrick, that I know of, which deviates ever so slightly from the Gothick, and imitates ever so remotely the manner of the ancients. Here are columns, arches and cornice, that appear to have some meaning.' This is a remarkably perceptive statement to be made in mid-Palladianism.

[3] James Lees-Milne: *Tudor Renaissance*, London, 1951; Margaret Whinney: *Renaissance Architecture in England*, London (The British Council), 1952; Marcus Whiffen: *An Introduction to Elizabethan and Jacobean Architecture*, London, 1952.

[4] Sir John Soane's Museum, pp. 87-88.

[5] Vol. 4, 1806. The name Somerset House was changed to Denmark House in 1606, and under this name the plan is to be found in Pegge's book.

[6] R. Blomfield: *A History of Renaissance Architecture in England*, London, 1897, vol. 1, p. 30.

[7] R. Needham and A. Webster: *Somerset House*, 1905.

[8] *The Works of John Knox*, Bannatyne Edition, Edinburgh, 1854, vol. 3, p. 176.

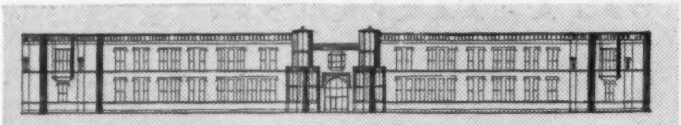
[9] Ed. 1603, p. 398.

[10] State Papers Domestic, June 4, 1575. P.R.O. SP 12/103.

[11] Ed. 1598, p. 59; ed. 1603, p. 78.

tinues what for instance Wolsey had done in the front of Cardinal College towards St. Aldate's, 2. But the comfortable spacing of the windows, their shape and pediments, the use of columns or pilasters and friezes and the replacement of a pitched roof by a balustrade are indeed clearly motifs of the Renaissance. The 'triumphal arch' at the centre is the most dramatic of them. Its origin is of course the triumphal arches of Imperial Rome, 3, 4; but some forty years before Somerset House Bramante had made it the dominant motif of the ground floor of his Belvedere Court in the Vatican, 5, and from there it had become a favourite motif of High Renaissance and Mannerism. It makes its appearance in Holland in Pasqualini's tower at Ijselstein (1530–37), in France in Serlio's château of Ancy-le-Franc (*c.* 1540–46). In France it achieved special popularity for the use of the gateway to a palace. Hence the recent authors' attempts at connecting Somerset House with Anet and Ecouen. Lescot's Louvre also makes prominent use of the so-called Bramante-motif. But the Louvre was begun only one year before Somerset House, and at Anet and Ecouen also according to the evidence summarized by M. Gébelin,[12] the parts in question can hardly be older. Was Somerset's source then Italy? Not necessarily, although at least one of the elements of his façade is wholly Italian and not French: the top balustrade. This appears in Raphael's Palazzo Branconio dell'Aquila shortly before 1520, and then in Sansovino's celebrated Library of St. Mark in Venice (1532–34). It remained, however, rare in Italy and does for instance not once occur in Serlio's book. So the choice of this motif at Somerset House is certainly something remarkable. The ornamental Tudor chimneys look odd enough behind the balustrade.

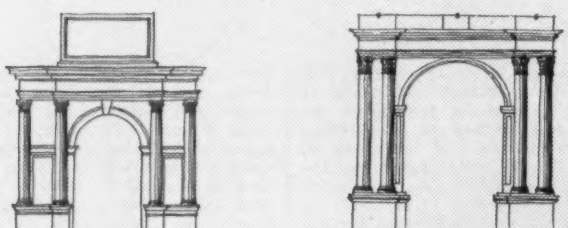
Sebastiano Serlio has been mentioned already twice, once for the use of the Bramante-motif at Ancy, the other time with reference to his treatise on architecture. Serlio's *Architecture*—this can now be taken as universally accepted—was of the greatest importance for the development of classical forms in England.



2, *Christ Church College, Oxford.*

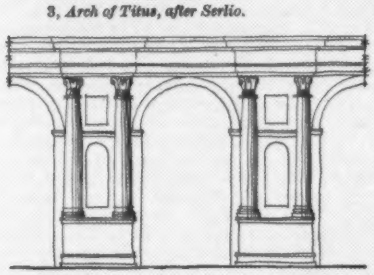
Its popularity remained unchanged down to the time of Sir Christopher Wren, and Somerset House proves that its success was immediate. The book was begun before Serlio left Italy. Book Four, the first to be published, came out in 1537, Book Three in 1540. Books One, Two and Five followed in 1545 and 1547, and were published in France. The Extraordinary Book was issued at Lyons in 1551. Now in the Third Book Serlio illustrated not only Bramante's Belvedere Court, but also a number of Roman triumphal arches. In these the designer of Somerset House could see the arrangement of the semicircular arch flanked by columns and with niches between these and a pair of outer columns, in short the motif of the arch of Titus.

Eighteenth century illustrations of the façade of Somerset House show one large arched niche in the interstice, Thorpe shows two superimposed. If he is to be trusted in this, it would prove the designer of the frontispiece at Somerset House to be clumsier and less experienced than his French colleagues at the Louvre, Anet and Ecouen. The order of columns he uses is incidentally a heavy Tuscan with a metope frieze. That has no parallel in Roman Imperial arches. But the Tuscan order had been a favourite in Italy ever since Bramante's Tempietto. In France, however, its popularity does not seem to antedate Delorme's frontispiece and gatehouse at Anet, i.e., the very years during which Somerset House was built. Yet there seems to be a relation between Somerset House and Anet; for Anet possesses the first three-storeyed frontispiece incorporating columns; Serlio has nothing of the sort. It is true that already in 1528 Fontainebleau received a doorway, the Porte Dorée, 6, which has large central niches in three storeys flanked by two pairs of pilasters on each side, but they are pilasters and not columns. Somerset House holds an intermediate place. The frontispiece is three-storeyed. The ground-floor, as we have seen, possesses columns; but on the upper floors they are continued as pilasters. So the idea at Somerset House can perhaps after all be explained as a combination of the Roman triumphal arches in Serlio with the superimposed pilasters of France and especially of Fontainebleau.

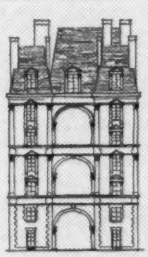


3, *Arch of Titus, after Serlio.*

4, *Triumphal Arch at Pola.*



5, *Bramante's treatment of the Vatican Belvedere.*

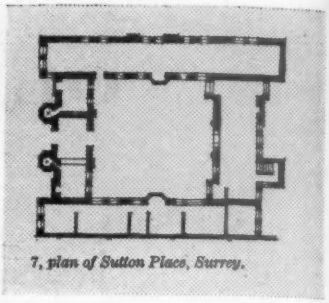


6, *the Porte Dorée, Fontainebleau.*

The motif of superimposed pilasters, repeated at Somerset House also in the angle pavilions with their bay windows, appeared in France at Gaillon before 1510, and in the Loire châteaux of *c.* 1515 and the following years, and at once became the stock-in-trade of the Early French Renaissance. The motif as such, needless to say, was not a French invention, but goes back to Alberti's Palazzo Rucellai and the Cancelleria. The way in which at Somerset House, right in the centre of the whole composition, two oriel windows are squeezed in between the pilasters is additional proof of English authorship of the design or at least indicates an English alteration of an originally purer design. That this design appears so much more French than Italian is also due to the windows. Their shape—the so-called mullion-and-transome-cross—is as characteristic of the Loire School as are the superimposed pilasters. With pediments they occur for the first time in the Porte Dorée at Fontainebleau, to which reference has already been made. Pediments above windows or niches are of Roman origin—*see* the so-called Temple of Diana at Nîmes and the Triumphal Arch of Verona. Bramante uses them in the Casa di Raffaello, Raphael in the Palazzo Branconio and the Villa Madama, and after that they are frequent everywhere in Italy.

The difficulty altogether about such a search for sources as that undertaken in the preceding paragraphs is that, whatever the immediate source, the ultimate source is every time Italy. Even so, however, we can perhaps sum up the position of the Strand façade of Somerset House as a general Tudor scheme carried up with predominantly French motifs, but motifs largely explicable out of Serlio's *Architettura*, with the addition of certain impurities indicating an English hand at the drawing board or in the execution.

We must now turn to the courtyard, its plan and frontages. Somerset House was a large mansion, roughly 500 feet from north to south. The courtyard must have been about 300 by 250 feet. The 'courtyard house' with gatehouse and, in axis with it, the entrance to the Great Hall, placed asymmetrically in the far range, is emphatically English and indeed of much earlier than Tudor origin. If Thorpe records the original placing of the Hall correctly, and if the hall screen bought by St. Bride's and re-erected there in 1557, stood in the usual position, then Somerset House carried on this tradition unmodified. The change in interior arrangement which is to be seen in the plan of 1706 was probably made, when Inigo Jones altered the South front of the South Range. English also are several of the individual elements of the courtyard plan; the rectangular bay-windows placed symmetrically in the narrower east and west ranges, and the projecting corner blocks between the Hall range and these ranges. The most similar plan is Sutton Place, 7, in Surrey of *c.* 1523 which is, it must be remembered, a uniquely advanced plan for its date in England. The difference is that at Sutton Place only one projection contains a passage, whereas the other serves as a bay-window to the Hall. At Somerset House both are passages, and the Hall bay faces the river. But Sutton Place has, like Somerset House, the symmetrically placed bays in the east and west ranges. The same motif is used even more similar to Somerset House at Hever Castle in Kent, where during the reign of Henry VIII such side ranges were built in a much less grand and formal style.[13] So the plan of Somerset House does not borrow from France or Italy.



7, *plan of Sutton Place, Surrey.*

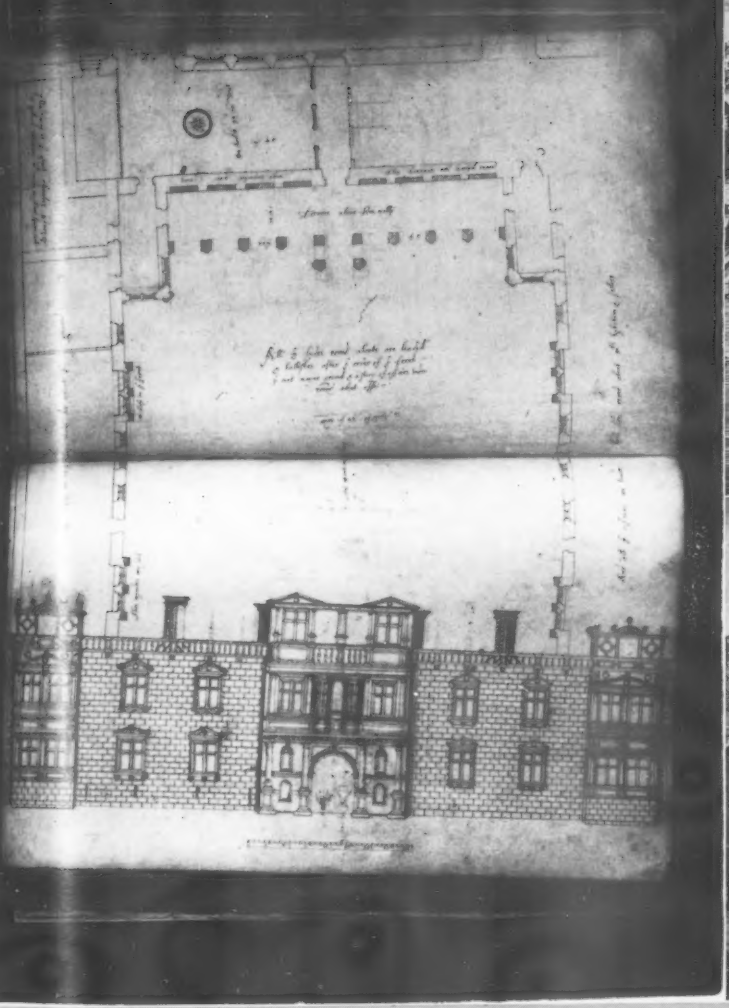
It is again different with the elevations. At the back of the Strand range, in the middle, was a gatehouse, 12, entirely of English Tudor type, but with certain Renaissance details between the two towers. There was a round arched portal flanked by coupled fluted pilasters and with wreaths in the spandrels, and the windows above had pediments, segmental as well as triangular. On the sides to the left and right of the gatehouse the triglyph frieze of the Strand front was repeated, rather incongruously, since there were no columns or pilasters to carry it, 13. Facing this back of the Strand range, that is on the north side of the river range, was a similar portal, but with coupled columns instead of pilasters, 14. It did not lead straight into the screens-passage of the Hall, but into a colonnade which stretched right across this façade, from projecting corner block to projecting corner block. The colonnade is truly a colonnade, that is it consists of slim columns carrying arches.[14] Finally in the east and west ranges the symmetrically placed projections were decorated with three superimposed orders of columns.

These various motifs give us plenty to consider. There had been no round-arched portal in England before, flanked by columns or pilasters, no arched colonnade, no superimposed orders of columns. Everyone of these motifs was an innovation, and one may be well advised to doubt at first whether they can indeed belong to as early a date as 1547–50. Yet it must not be forgotten that the Hall screen behind the colonnade was made by 1557 and also—a more general consideration—that the novel motifs of the courtyard fronts of Somerset House all contributed in their own ways to the establishment of the Elizabethan style to come: the portal with the coupled pilasters or columns reappears at Kirby in 1570, the colonnade at Dingley Hall, Northants, as early as 1558 and then at Sir Thomas Gresham's Royal Exchange of 1566, at Longford in 1578 and at Burghley, the mansion of Somerset's great protégé William Cecil. Superimposed orders of columns are very rare in England. The exceedingly interesting case at Hill Hall in Essex of 1568 deserves a study all to itself. Its builder, Sir

[12] *Les Châteaux de la Renaissance in France*, Paris, 1927.

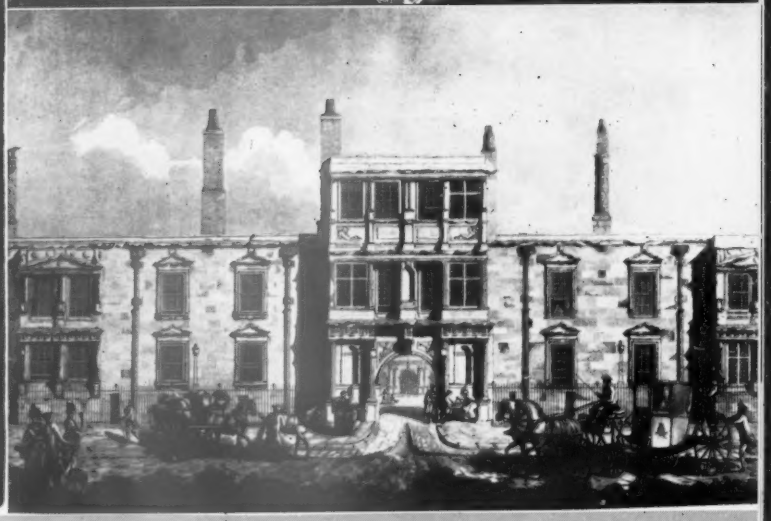
[13] *Country Life*, vol. 22, 1907.

[14] As for the relation of portal and colonnade the Thorpe drawing does not tally with the eighteenth century illustrations. My attention was first drawn to this irregularity by Professor Blunt.



8

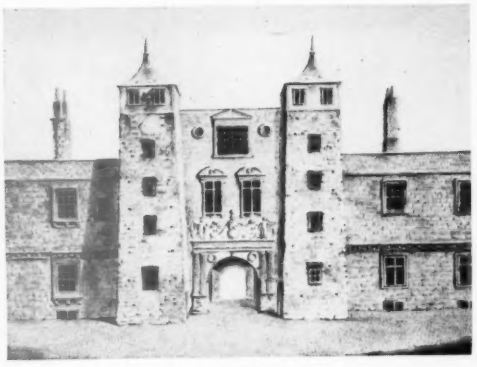
9



10

11

12



13

14

15

8, John Thorpe's drawing of the plan and elevation of Old Somerset House; 9, Kipp's engraving, showing Inigo Jones's work of 1638 and the new river frontage of 1661; 10, the Strand Front as built; 11, portrait of Lord Protector Somerset (artist unknown); 12, 13, gateway and flanking towers toward the courtyard, at back of Strand Front; 14, colonnade at opposite side of court; 15, general view of interior courtyard, showing projecting bays at either side, framed in superimposed orders of columns.

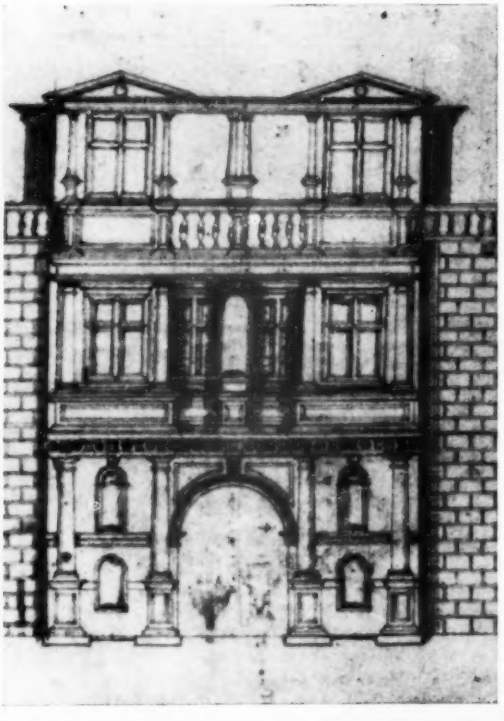
16

17

18

19

20



21

16, *Fireplace made for Henry VIII, circa* 1540, *now at Reigate Priory;* 17, *Holbein's design for a fireplace with coupled columns;* 18, *Dormer Tomb in Wing Church, Bucks;* 19, *the altar from the Chapel at Ecouen;* 20, *Tomb of Cardinal Bembo, by Sammicheli;* 21, *The Strand Gate and frontispiece of Old Somerset House, detail from the drawing by John Thorpe*

Thomas Smith, was also a protégé of Somerset. So was Sir John Thynne, of Longleat, and Mr. Hussey has shown how closely Longleat depends on the façade of Somerset House.

To return to the question of sources, the graceful motif of the arched colonnade stands of course right at the beginning of the Italian Renaissance, with Brunelleschi's Foundling Hospital in Florence. But France also had adopted it, though more rarely: first in Francis I's palace of Madrid in the Bois de Boulogne (1528, etc.) and then in Delorme's early Château of St. Maur (1541, etc.).[15] So here Somerset's architect may have drawn on either France or Italy. It is different with the portal, a form derived ultimately from such Roman buildings as the arch of Pola illustrated in Serlio's Third Book, that is in 1540. Italian Renaissance examples are frequent and well-known: The Triumphal Arch of the Castel Nuovo at Naples (with columns in two superimposed orders), the Arsenal at Venice, the clock-tower at Padua by Falconetto and so on. In France on the other hand the motif is rare. Gébelin illustrates one example at Assier, dated 1535, Serlio shows one in his special book on doorways which came out only in 1551, and other French examples do not seem to antedate the fifties.

But the most difficult motif to explain is the columns in the east and west projections, 15. Here, if anywhere, Somerset's architect was original. With pilasters these projections would look much like the style of the Loire, and thus indeed Longleat has interpreted them. But bay-windows with columns exist neither in France nor in Italy. Superimposed orders of columns for façades of course had been used in Italy ever since the Palazzo Vendramin in Venice of the 1480's, and France has them first at Bournazel, near Rodez, in 1545, and more in the fifties. But in such a position as at Somerset House, emphasizing only special bays, they look very different, and for this the nearest parallels are again French, but only applicable to a certain degree. One could, for instance, say that the outer staircase of Francis I at Chambord, 22, dateable *c.* 1540, if flattened out instead of being polygonal, would give a somewhat similar pattern, and one could also compare the single, not projecting, or only slightly projecting superimposed bays at the Hotel d'Ecoville at Caen, 23, of *c.* 1535–38, and at Fontaine-Henri, 24, of *c.* 1537, both in Normandy.

[15] The earliest example in the Netherlands is the courtyard at Breda by Vincidor of 1536.

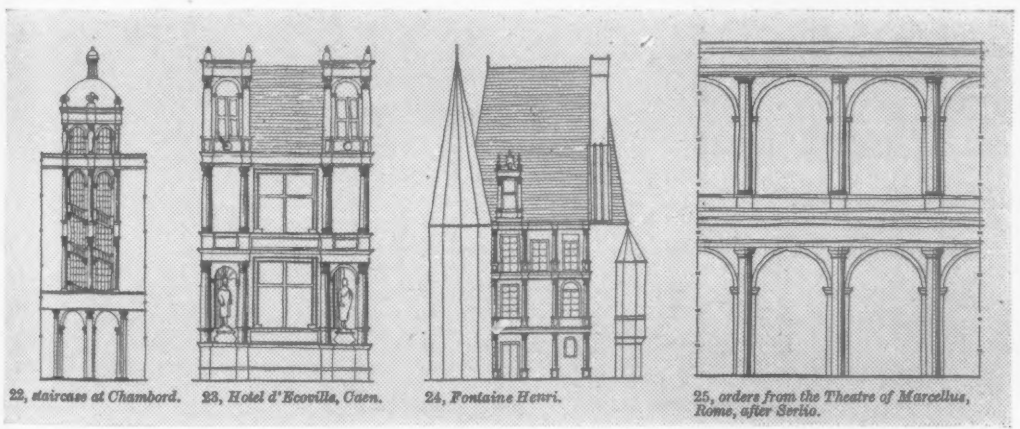
That is not much, and we have perhaps to accept that the designer of Somerset House independently decided to use as a special distinction for his bay-windows the columnation of the Theatre of Marcellus, 25, and the Colosseum in Rome, both illustrated in Serlio's Third Book.

Serlio remains, it seems, the chief source for the innovations of Somerset House. In addition, the Strand façade makes some knowledge of recent French building highly probable, and the other frontages certainly do not contradict it. Italy can have served as additional confirmation, but need not. The plan, the gatehouse on the south side of the Strand range, and such details as the upper story of the Strand frontispiece and perhaps also the weird way in which corbels are carried on the columns of the north portal of the river range indicate English minds at work rather than French or Italian.

Who was the designer of Somerset House? Was he an Englishman or a foreigner? The following have been considered by previous writers, or ought to be considered. First of all the Duke himself. We have no evidence however that he was specially interested in architecture, nor that he travelled widely in France. He had not visited Italy. Of his clerk of the works, Robert Lawes, I know nothing. Sir John Thynne who was his Steward at the time and later built Longleat for himself visited France in 1547, that is just at the time when Somerset House was begun.[16] The fact must certainly be remembered. It might help to account for the French leanings of Somerset House. For as to a Frenchman having actually designed Somerset House, there is a remarkable absence of French names amongst foreigners engaged in England during those years on any architectural or decorative work. Flemish and German names appear amongst the glaziers[17] and woodcarvers.[18] They are, of course, also prominent among Elizabethan sculptors. And Italian names are not infrequent in the last years of Henry VIII, although there is lamentably little information what precisely they did. In connection with Somerset House, the mysterious John of Padua has been mentioned. The reference comes from a letter from Smart Lethieullier to Dr. Ducarel, quoted in a Gough Manuscript.[19] It may not be worth much, but the introduction of a man from Padua is not without interest, as will be shown later. John of Padua was in Henry VIII's service since 1543. His work 'in architectura' for the King is specially mentioned, and his salary of 2s. a day is remarkably high. Horace Walpole quotes a document in which he is called 'Devysor of H. Majesty's Buildings.' His Letters Patent were renewed after Henry's death in December, 1547.[20] It is tempting to connect him with Somerset House, and also with Henry VIII's own principal building in the last seven or eight years of his life: with Nonesuch.

We know too little about Nonesuch. Excavations at Cheam might yield a great deal, if they were undertaken. The plan seems to be French, the type with a courtyard closed on three sides by ranges of rooms, on the fourth by a screen or gallery with a gatehouse. That is the type of Le Verger of the late fifteenth century and of Bury (1514–24) and later of Anet, the Luxembourg, and so on. The decoration was, it seems, Italian of the Fontainebleau variety. So at least a drawing in Paris would indicate what has recently come to light and is illustrated in Mr. Summerson's volume of the Pelican History of Art. Rosso Fiorentino had begun work at Fontainebleau in 1531, Nonesuch was begun in 1538. If influence from Fontainebleau reached England, should it then be called French or Italian? And if we know of several more Italians apart from John of Padua working in England in Henry VIII's later years, need their style be Italian? We have no clear idea of Luca Penni, of Toto del Nunziata (of whom Vasari says he built 'il principale palazzo' for the King), of Niccolo Bellini (who went from Fontainebleau to London in 1538). The whole problem also arises for such odd pieces of antique furnishings as the fireplace from Catherine Howard's house at Bletchingley,[21] now at Reigate Priory, 16. This assumes some importance in our context, because it represents one of the two earliest cases in England of the use of coupled columns. The other is Holbein's famous design, 17, for a fireplace.[22] As here the coupled columns appear side by side with strapwork, I would date this after 1538, the year in which Holbein visited Lyons and may have visited Fontainebleau. The column altogether is the most important single motif to make the change from the Early Renaissance fashion to a broader and more self-certain treatment of classical elements which characterizes the Elizabethan style. In funeral monuments and other decorative pieces up to the middle of the sixteenth century, the candelabra or the pilaster usually take the place of the column. In France columns instead of pilasters to separate the niches reserved in the later Middle Ages for *pleureurs* appear already in the tomb chest to the Dukes of Orléans at St. Denis in 1502. In England the earliest cases I can remember are of about 1550, for instance Lady Elizabeth Seymour at Norton, 1552; the Duchess of Suffolk at Westminster Abbey, 1559; Sir John St. John at Bletsloe, 1559, and so on. Four-poster and six-poster types appear at the same time (e.g., Bishop Bush at Bristol, 1553).

Only the grandest and noblest case of early columnation in England can here in conclusion be singled out. It deserves special attention, because it illustrates specially well the problem of Franco-English and Italy-English elements in the formation of the Elizabethan style. Sir Robert Dormer died in 1552. There is no reason to assume that his monument in Wing church in Buckinghamshire was not erected about the time of his death. What is known of him and his son, Sir William Dormer, indicates no special artistic bias.[23] Yet the monument is the purest piece of classical design in England before Inigo Jones, 18. Its sarcophagus with ox's skull and garlands, its coupled Corinthian columns and its exquisite detail in the entablature have no parallel in contemporary English design. Are they the work of a foreigner,[24] and if so—where did he come from? Two answers are possible: the altar of Ecouen (now at Chantilly), 19, convincingly similar but quite probably a few years later than Wing, and the Bembo Monument at Padua, 20. This is by Sammicheli and was executed shortly after Bembo's death in 1547. So here we have, as a last summing-up, the alternative of inspiration from the France of Delorme and Bullant and from Padua, the town from which John of Padua came, and where two of the most interesting patrons of Early Elizabethan architecture studied: Sir Thomas Smith, of Hill Hall, and Dr. Caius.



22, *staircase at Chambord.* 23, *Hotel d'Ecoville, Caen.* 24, *Fontaine Henri.* 25, *orders from the Theatre of Marcellus, Rome, after Serlio.*

[16] *Letters and Papers, Foreign and Domestic, of the Reign of Henry VIII*, ed. G. J. Gairdner and R. H. Brodie, vol. 21, pt. 1, p. 474.

[17] K. Harrison: *The Windows of King's College Chapel, Cambridge*, Cambridge, 1952.

[18] *See*, e.g., for Queens' College, Cambridge, in 1531, Willis & Clark, *The Architectural History of the University of Cambridge*, Cambridge, 1886, vol. II, p. 61.

[19] Misc. Ant. 4, p. 54. 'Collections relating to the Antiquities of England,' 1750: 'John of Padua, No. 18, an architect whose picture is in Caius College Common Room, built part of this College and Somerset House in ye Strand.' The quotation was kindly checked for me by Mr. Per Palme.

[20] *See* R. W. Carden: The Italian Artists in England during the Sixteenth Century, *Proc. Soc. of Antiq.*, vol. 24, 1912.

[21] *Country Life*, Vol. 43, 362, which gives several possible sources for the fireplace; that it is in situ, or that it came from Nonesuch, or from Catherine Parr's house. The most likely is based on a statement by Evelyn, August 11th, 1655, that it came from Catherine Howard's house at Bletchingley, Surrey.

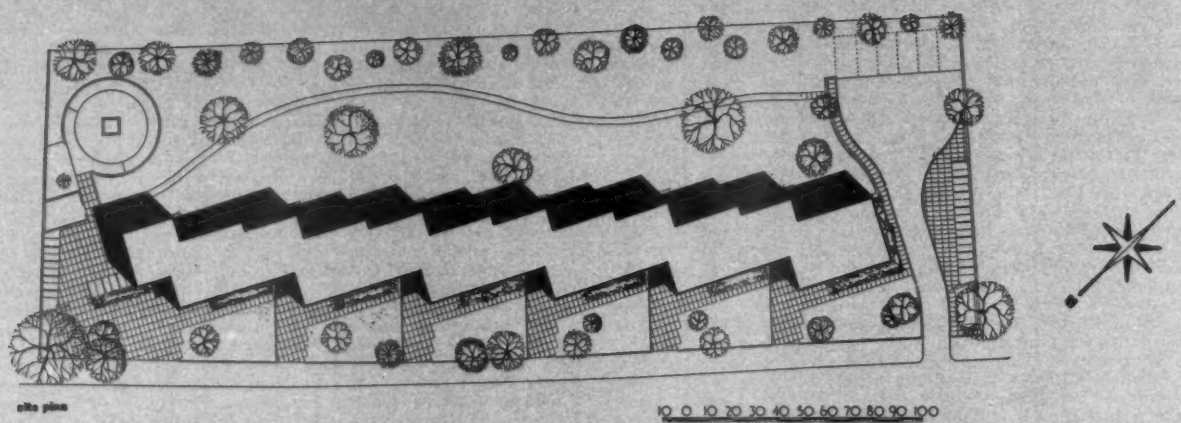
[22] P. Ganz: *Les Dessins de Hans Holbein le Jeune*, Geneva (n.d.), vol. 3, 27 (XI. 6). A date about 1536-37 and a connection with Bridewell have been suggested. Both seem unjustified. Dr. F. Grossmann agrees with me that a later date should be assumed. He draws my attention to a letter which Walpole wrote after having acquired the drawing and in which he suggests a connection with Nonesuch (Yale Edition vol. II, pt. 2, 1937, p. 130).

[23] *See* R. Gibbs: *Worthies of Buckinghamshire*, Aylesbury, 1888, G. Lipscomb, *The History and Antiquities of the County of Buckingham*, 1831-47, and more recently M. Maclagan in *Ozoniensia*, vol. 11-12, 1946-47.

[24] Professor Blunt tells me that the material is alabaster and clunch, that is not a foreign material. I wish to thank him for this information. I also wish to express my gratitude to Lord Fairhaven for having the portrait of the Protector in his collection photographed for me and allowing me to publish it here and to Dr. S. Lang for help in the library and record office.

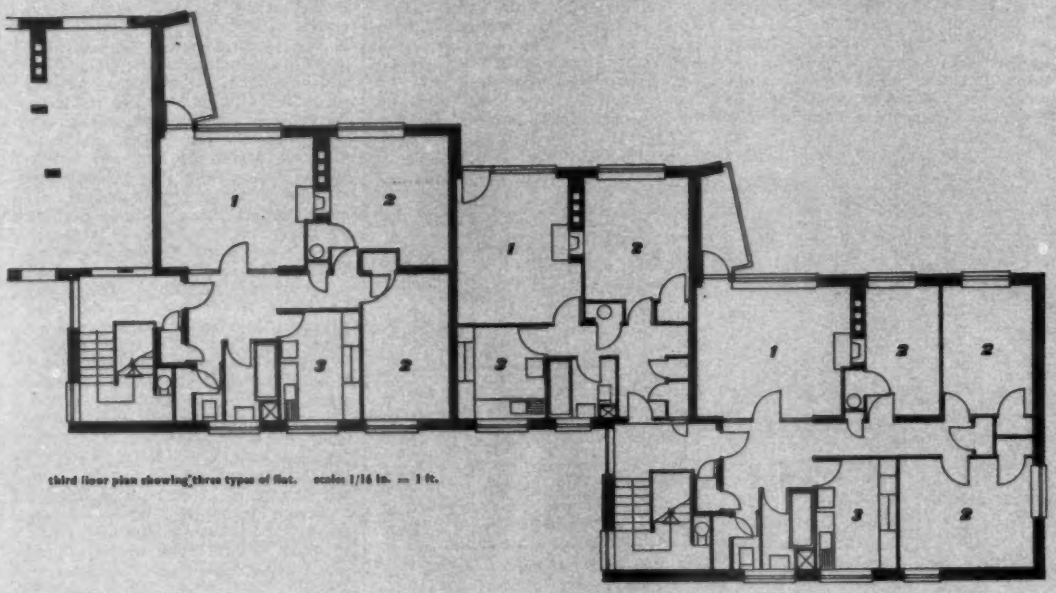
FLATS AT ST. JOHN'S WOOD LONDON

ARCHITECTS | **ARMSTRONG AND MACMANUS**



site plan

10 0 10 20 30 40 50 60 70 80 90 100



key
1. living room.
2. bedroom.
3. kitchen.

third floor plan showing three types of flat. scale: 1/16 in. = 1 ft.

This scheme, restricted to a frontal development on a site of 1½ acres in a residential neighbourhood, consists of forty-eight flats contained in one block. The block is zig-zag shaped on plan and is four storeys in height. The sizes of the flats vary from two to four rooms and all are approached from internal staircases. All flats, except the smaller ones, have private balconies facing south which, as a result of the zig-zag layout, do not obstruct light to rooms below and are shielded from each other. The small flats which, for economic reasons, do not have private balconies, are provided with inward opening casement doors to the living rooms and have flower boxes incorporated in the guard railing. Kitchens are fitted with modified standard units which are completely factory made and finished.

The construction of the block is of designed load-bearing brickwork, with solid reinforced concrete floors and roofs. Facing bricks are buff colour. Windows are of wood, purpose made, and mainly of the horizontally pivoted type which can be reversed to the inside for cleaning. The staircases have coloured matt glazed tile dadoes with plastered and painted walls and soffits over. The internal finishes to the flats are to the normal housing standards with plastic tile floors and a limited amount of white glazed tiling in the kitchens and bathrooms.

Each flat has the choice of electric or gas cooking, and dry conduits are provided for the installation of telephone service if required by the tenants. Space and water heating is provided from continuous-burning type

1, above, rear view. 2, below, view of the flats from Boundary Road.

3 and 4, two views of the staircases at the rear of the block.

grates in the living rooms, which have back boilers and convector panels to the bedrooms adjoining. The solid fuel stores within the flats have automatic locking delivery hoppers from the stair landings. Clothes washing facilities consist of the provision of gas coppers in the kitchens and gas drying cupboards for communal use on the staircase half-landings. Refuse disposal is by means of chutes to container chambers at ground level.

A sunken play space with sandpit and climbing frame for small children is provided at the rear of the site and provision is made for the erection, in the future, of six garages.

HOUSES AT NOORDWIJK HOLLAND

ARCHITECT | **ALLERT WARNERS**

1, close-up of the south elevation.

This terrace is in a small seaside town 15 miles from The Hague. The houses are planned with living rooms on the ground floor and bedrooms on the first, with a basement containing fuel store, boiler for central heating and a work room. The staircase to the basement can be reached from both the living room and kitchen. The kitchen is separated from the living room-dining area by a floor-to-ceiling storage unit with sliding doors above

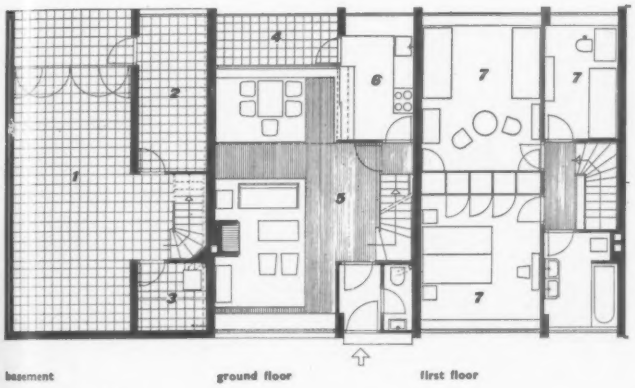
and below a glazed panel and service door at bench-top height. Bedrooms have built-in cupboards and wardrobes.

Construction is of load-bearing brick party walls with timber joists and iron fixings. Front and rear window walls are timber framed with aprons below which on the first floor serve as ventilator covers. The butterfly roof is slated, with aluminium sheet and glass wool insulating material beneath.

Exterior brickwork is rendered white, window aprons are of coloured glass in timber frames. All joinery is painted white except front doors which are veneered. Internal brickwork is plastered and finished white. Floors are timber except in the kitchens and bathrooms which have plastic tiles. All built-in furniture including flush doors is faced with Gaboon mahogany veneer.

2, a sketch of the living-room. 3, the terrace from the south-east.

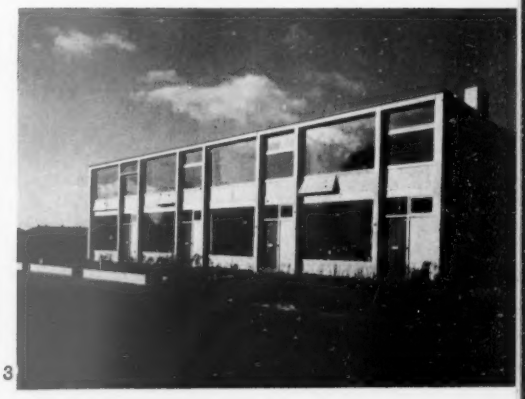
2



key
1, garage.
2, store.
3, central heating room.
4, balcony.
5, living room.
6, kitchen.
7, bedroom.

basement ground floor first floor

scale 1/16 in. = 1 ft.



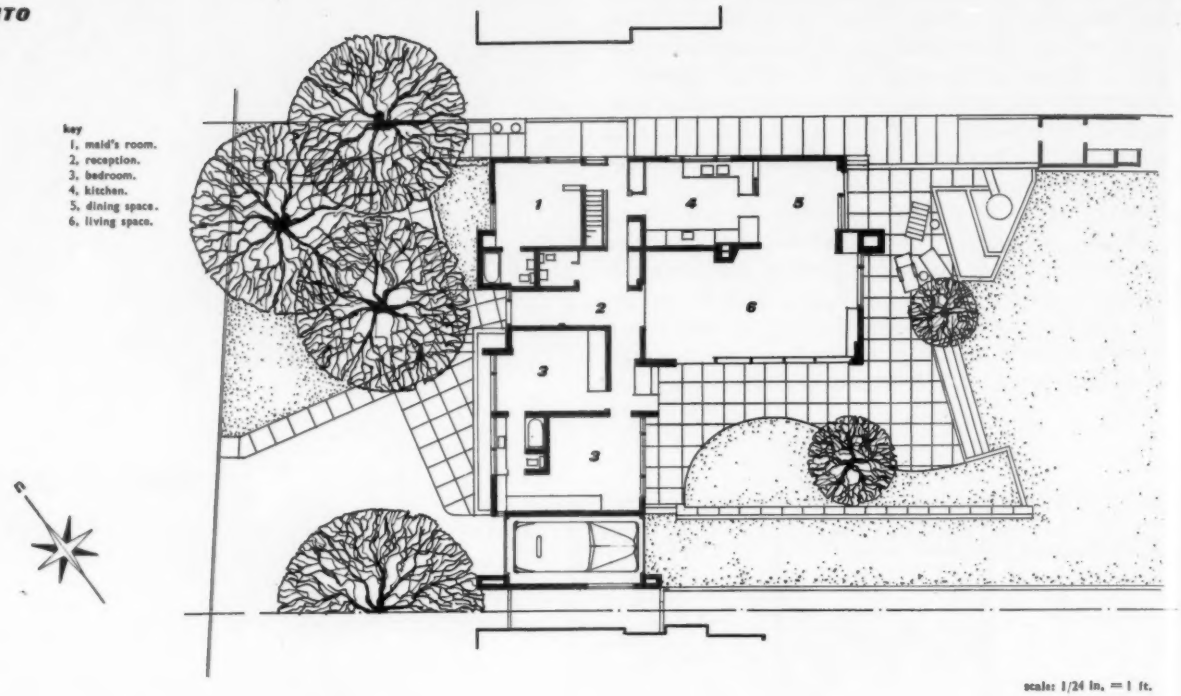
3

HOUSE IN TORONTO

ARCHITECT	JAMES A. MURRAY
ASSOCIATE DESIGNER	JOHN A. HALL
LANDSCAPE ARCHITECT	J. AUSTIN FLOYD

1, the street front and front garden.

HOUSE IN TORONTO

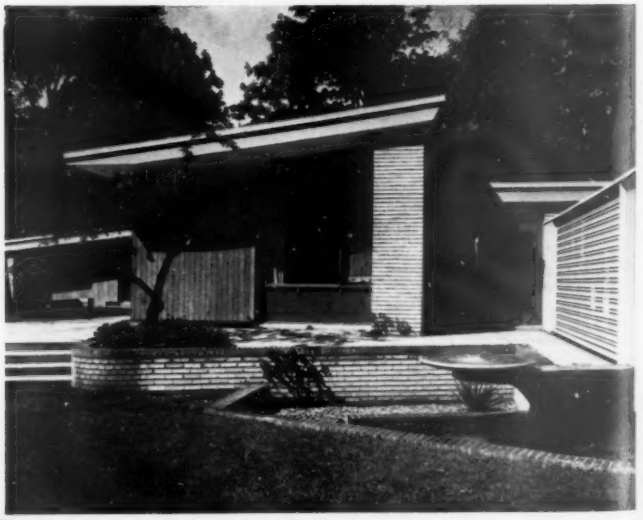


scale: 1/24 in. = 1 ft.

The house is in Park Road, Toronto, within five minutes' walk of the centre, built in an old residential street, with Victorian houses on both sides. It lies in the hollow of a well-wooded ravine, and the property includes the steep slope of this rising at the end of the garden. The client is an enthusiastic gardener and the house and garden were carefully planned by architect, designer and landscape architect in collaboration. The plan is L-shaped, with all the principal rooms facing the garden. The slope of the roof echoes the slope of the street on the hill ; inside, the ceiling is lowest in the bedroom and private rooms, highest in reception and living spaces. The construction is load-bearing brick walls and a wood-framed roof ; the floor is wood framed over crawl space which helps to ventilate the heating system—forced hot air—in the basement. The windows are either fixed, sealed and double-glazed, or opening steel casements, all set in oak frames. The garden is formal near the house, gradating through a lawn to natural woodland beyond. The area outside the living room, which is visually part of it, has been carefully designed so that it will make a satisfactory composition all the year round.

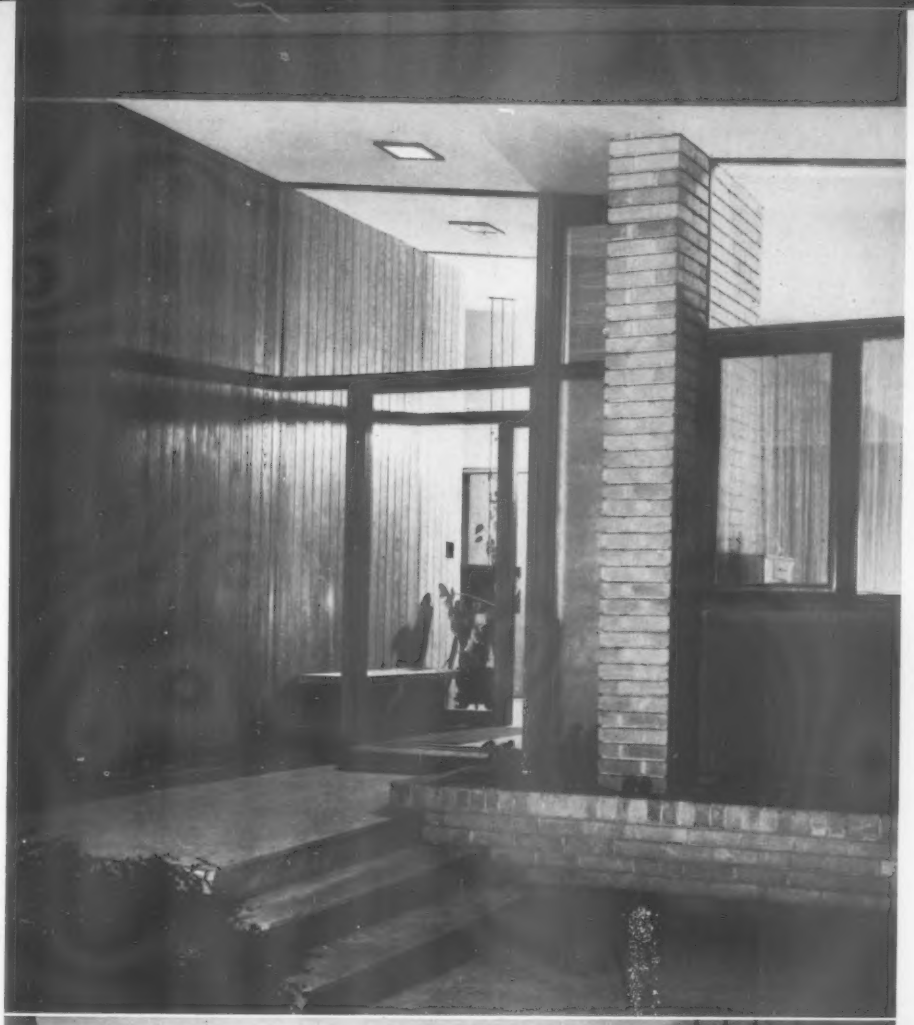
2, the garden front, with the living space in the centre. On the right there is a slatted wooden fence with drying area behind ; in front of that is a cantilevered bird bath. 3, view in the angle of the L-shape, with the garage on the left and one side of the living space on the right. The wall in front is of concrete blocks with brick edging. 4, the view from the owner's bedroom in winter.

2



3

4



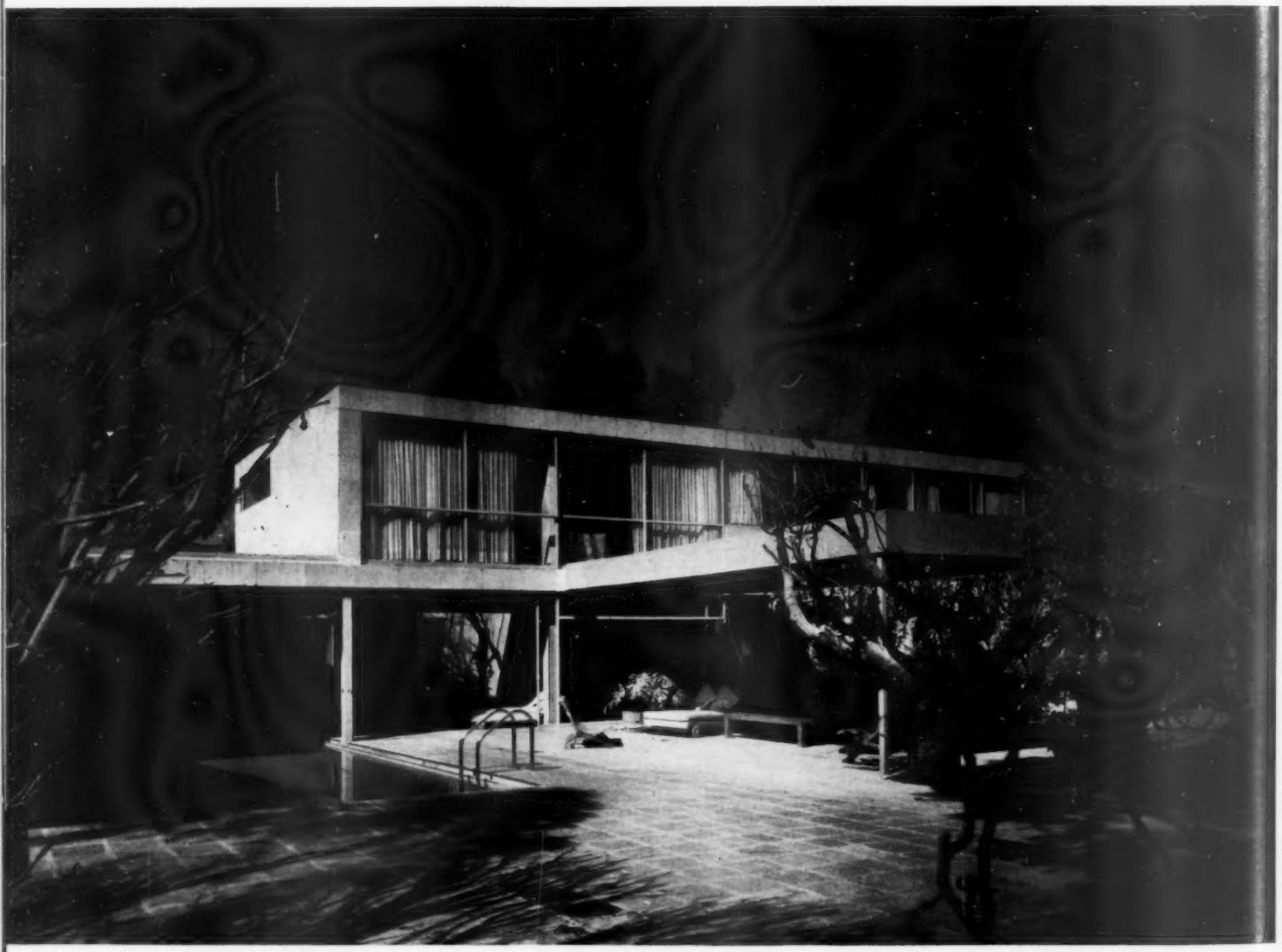
5

6

5, a close-up of the front door and vestibule beyond; the materials are pale yellow brick and panelled natural oak. 6, the vestibule from the reception area.

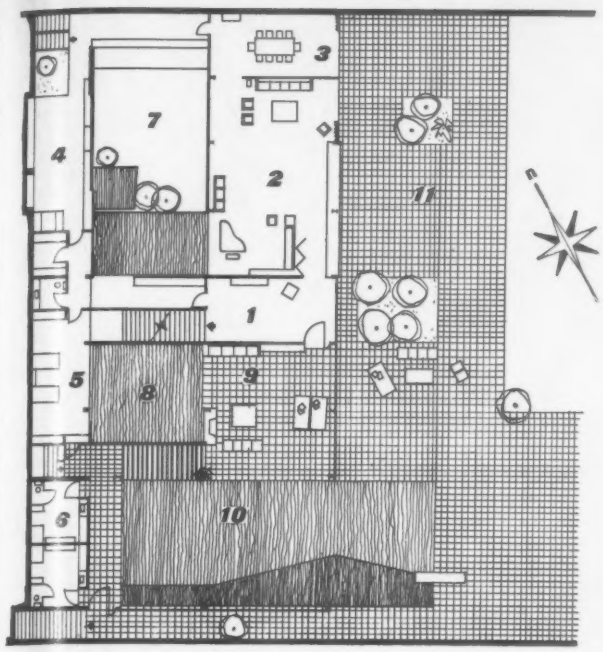
HOUSE IN MEXICO CITY

ARCHITECT | **JUAN SORDO MADALENO**

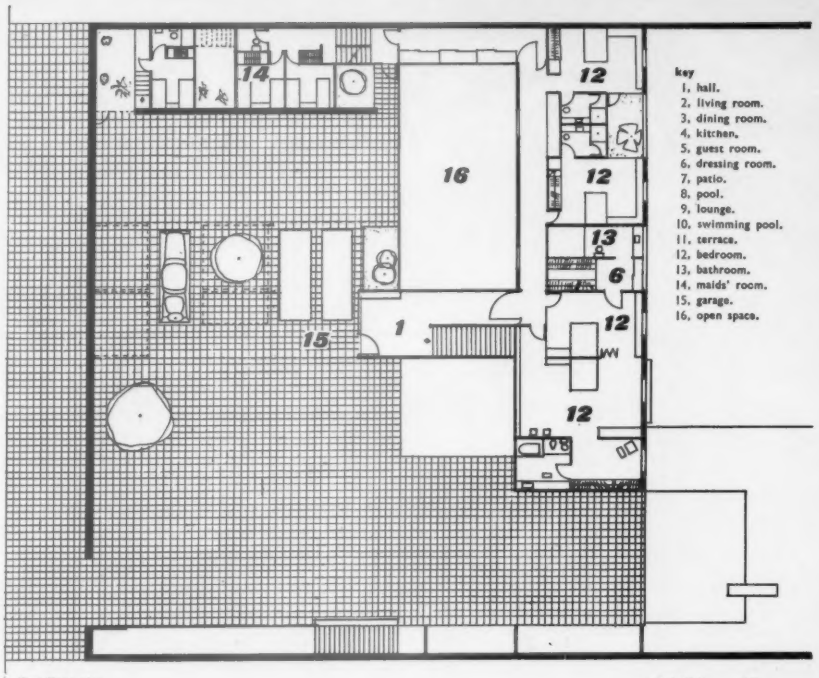


1, the garden front from the south.

This is the architect's own house in the Paseo de Reforma, Mexico City, facing south-east on a sharply sloping site, the upper floor being on street level and the lower floor built into the slope and opening on to a terrace. It encloses an interior garden with pools, and there is also a covered-over swimming pool.



ground floor plan



key
1, hall.
2, living room.
3, dining room.
4, kitchen.
5, guest room.
6, dressing room.
7, patio.
8, pool.
9, lounge.
10, swimming pool.
11, terrace.
12, bedroom.
13, bathroom.
14, maids' room.
15, garage.
16, open space.

first floor plan

scale 1/16 in. = 1 ft.

2, the house from the end of the garden. 3, view across the swimming pool to the lounge and terrace. 4, looking into one of the internal courts from the top of the staircase. 5, the living room.

On the upper floor there are two subsidiary wings extending towards the street; one containing the garages, which serve as an open passage between the street and the entrance hall, and the other containing the maids' and chauffeur's rooms.

2

3

4

5

Bomarzo, situated on the north slopes of the volcanic Monte Cimino and accessible from the Viterbo-Orte road, is a typical Italian country town built along a windswept crest. The authorities, tourist agents and archeologists have dismissed it at that, little knowing that over the well-tilled fields lies this extraordinary garden of sculptured monsters, giants and grotesque masks. The frontispiece shows the so-called 'Hercules' group—a giant tormentor of exaggeratedly robust muscularity and a victim with body less-forcefully modelled to point the contrast. No iconographical scheme has yet been discovered that would explain the derivation of this and the other monuments of Bomarzo.

Colin Davidson

BOMARZO

By 1560, the Duke Vincenzo Orsini had completed works on his palace, which for all his taste and modernization preserved its medieval severity. He neglected his village, even incurring the criticism of his contemporaries for not financing a single church for it. Roused by envy of the Farnese' Caprarola masterpiece, he decided to make a fantastic pleasure-garden in a nearby rock-strewn valley. He is alleged to have chosen the spot because it was linked to his castle by a redundant escape-tunnel, but the cool north exposure and the fast-flowing stream would alone justify the choice.

The works of terracing and laying out the garden were begun according to the latest precepts, and the project would have been correct and orthodox but for an order that the Duke gave: to leave all the boulders where they were (it would have been well-nigh impossible to move them) and carve them to represent fantastic monsters. The construction covered a period of years, all the while new and strange ideas were being materialized, and conversations between Orsini and his friend the Cardinal Madruzio from the Venezia Tridentina were perhaps behind the 'oriental' style of the gardens for in no other way could they be explained in Central Italy at that time.

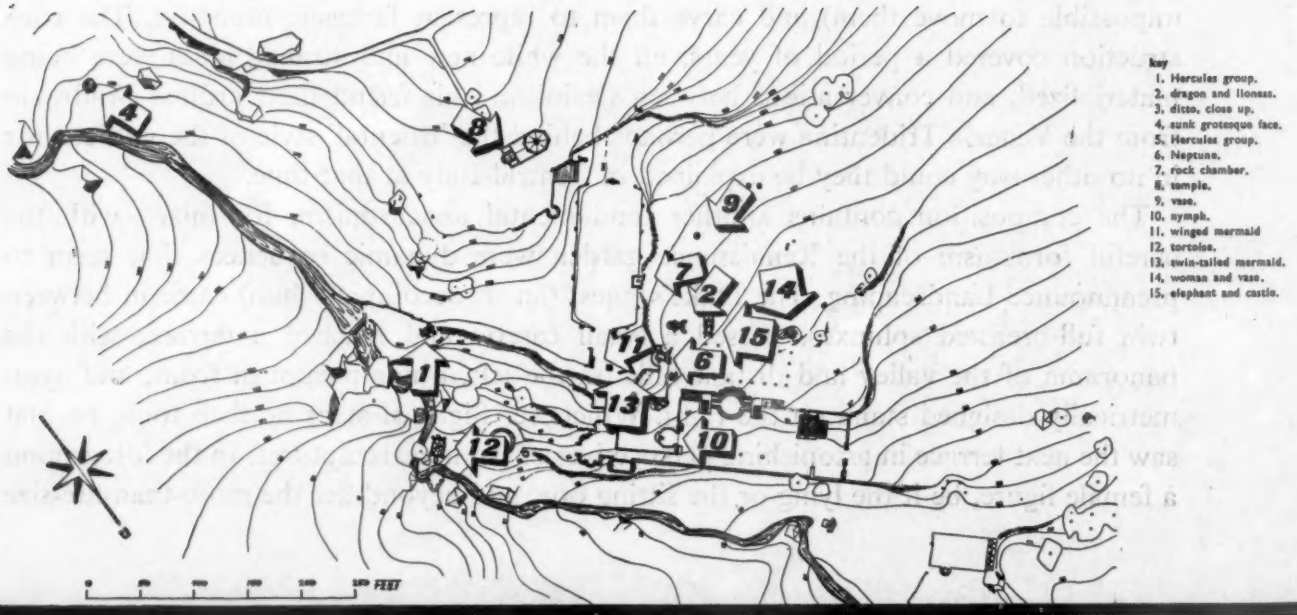
The composition contains another fundamental anachronism, for mixed with the careful formalism of the Renaissance garden were dynamic sequences that seem to preannounce Landscaping. The Duke's guest (let us accompany him) came in between twin full-breasted sphinxes, passed a small casetta and reached a terrace, with the panorama of the valley and distant hills on the left, a nympheum in front, and symmetrically designed stairs on the right. Whichever flight of steps he then took, he first saw the next terrace in astonishing perspectives of the huge sculptures. In the foreground a female figure, be it the lying or the sitting one, and beyond her the more-than-life-size

elephant and the dragon, and behind the colossal mask with the supper-chamber inside it. He crossed the terrace, leaving a small horse and high vase on each side, passed through a small triumphal arch, and climbed to another terrace, lined with acorns and fir-cones two yards high, from which he could look down on to the field of monsters, or on to the hills beyond the Tiber, visible between two grotesque mermaids. The highest terrace, dominated by a classic temple with disproportionate dome (reputedly by Vignola, but more probably designed by a pupil of his), could only be reached after passing a Cerberus, and on it pedestals were decorated with skulls and cross-bones. From there, our guest could descend towards the stream which flowed into view from a grotesque head and disappeared to the left into a man-made gulf, from where it went to fill the fountains and nymphea; he could wander on the lower paths which run horizontally from each terrace, always in shadow, and along which were benches, fountains, grottoes and the two largest sculptures, the Hercules and the giant tortoise.

Today the elephant rides in a field of indian corn, and the 16-foot 'sleeping beauty' lies in the midst of thorn-bushes, dense undergrowth marks the fallen retaining walls, and the smaller decorative elements have been moved or knocked over. The contrast between formal and informal is in fact less marked, for the movements of the terraces alone relate the various sculptures, and the architectural elements of exaggeratedly small scale act as foils to the size of the monsters. The terraces, originally lined with vases, pilasters, Hathor columns and benches with human figures for their backs or arm-rests, added an exotic unity to the garden if at the same time representing a regularity ill-suited to the balanced asymmetry of the principal elements of the design.

Research may one day throw light into the obscurity that shrouds the identities of the architects and artists who created this fantastic composition and plastic sculpture, and mechanized excavation reveal some parts of the garden still hidden, but enough is known to situate it in an epoch with whose customs we are familiar, and the visible moss-covered remains have a romantic unity and sculptural quality that can only confirm Orsini's inscribed verse:

'Tu chi entri qua, ponme
Parte a parte
Et dimmi poi se tante
Maraviglie
Sin fatte per inganno
O per Arte.'



2

4

The winged dragon has caught two lion cubs in the curve of its lobster-like tail: it is struggling with the enraged lion and lioness, 2. *The dynamic subject has been skilfully treated so that size and movement for once go in harmony. The facial expression of the dragon,* 3, *is of extraordinary vigour, and differs from the tired sensuality of the other Bomarzo faces. The huge grotesque face,* 4, *now ivy-covered, emerges from the sweep of a meadow.*

3

5

6

The curly head and robust shoulders of another 'Hercules,' 5, rises from thick undergrowth and viewed against the country beyond sloping down to the wide Tiber valley illustrates the scale of the garden. The bearded Neptune, 6, stiffly seated with a great cornucopia negligently falling from his left hand probably formed part of a fountain-group, with water playing between him and a giant dolphin and falling into a moon-shaped pool. The biggest rock has been hollowed to make a chamber with benches around it and altar-like table in the centre, 7: its front is a mask with staring eyes, the two-yard mouth bearing the inscription 'Ogni Pensiero Vola' (a drawing of this mask, by Gordon Cullen, is on the cover). The classical temple, 8, attributed to Vignola, is in curious contrast

7

8

9

10

11

12

to the twisting monsters. The colossal vase, **9**, *is so placed as to be seen either against the temple or, as here, against the mask. The top of the mask is arranged as a tribune in the centre of the upper terrace, bordered by stone acorns alternating with huge pine-cones. The nymph,* **10**, *who probably carried a basin with water falling from it, is on the axis of the entrance, and closed the first perspective. The headless figure,* **11**, *appears to be a mermaid with a dragon's wings. The huge tortoise,* **12**, *carries a female figure on an ornate pedestal towards a gaping mouth in the bushes in front of it. Here again some symbolism is obviously intended. The mermaid,* **13**, *sits somewhat uncomfortably on her twin tails, opposite her winged sister,* **11**. *The colossal seated woman with a vase surrealistically balanced on her head,* **14**, *has a number of tiny cupids playing with her hands and climbing over her back. The Elephant and Castle,* **15**, *carrying a Roman soldier in his trunk, is one of the few familiar and easily recognizable pieces of sculpture in this weird collection.*

13, 14
15

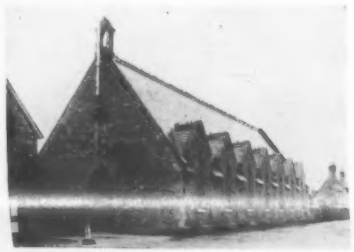
current architecture recent buildings of interest briefly illustrated

PAPER MILL AT WOLVERCOTE, OXFORDSHIRE

ARCHITECTS: BOOTH AND LEDEBOER

These laboratories and offices are the first stage of a scheme for reconstructing Wolvercote Paper Mill, near the Thames two miles up-river from Oxford, manufacturing high-grade Bible and book-printing paper. A disused chapel occupied the site, and as much as possible of it was re-used, as materials were short at the time of building. The construction is a mixture of concrete frame and load bearing walls; concrete posts at 5 feet intervals on the south elevation, forming the window mullions, and supporting concrete beams which span to the other walls which are rubble limestone. The trim to the doors and windows is ashlar Clipsham limestone; the

1



2

1, *right, the south elevation, and* 2, *a comparative photograph showing the chapel which was used to provide materials for the new building.*

2

panels below the windows are brickwork covered with an ivory spatter finish. Internal wall finish is generally plaster, with the controller's room flush panelled in teak; the entrance has a flush panelled wall in chestnut. The ceilings are acoustic tile in the offices, plaster in the laboratories. A small room next to the laboratory is kept at constant humidity, and is used for paper testing.

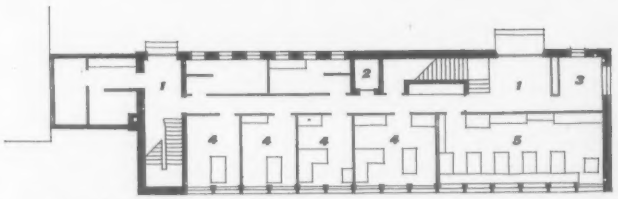
3, right, the main entrance hall looking to the waiting room. The furniture here was specially designed, as it was for the laboratories, controller's room and general office. 4, a close up of the entrance, and 5, a view of the north front. Eaves and verges are painted white, the soffits plastered and painted ivory, and the gutters enamelled dove grey.

3

4

first floor plan

key
1. entrance hall.
2. strong room.
3. waiting room.
4. offices.
5. genera loffice.
6. constant humidity room.
7. private secretary's office.
8. laboratory.
9. staff room.
10. controller's office.



ground floor plan scale 1/32 in. = 1 ft.

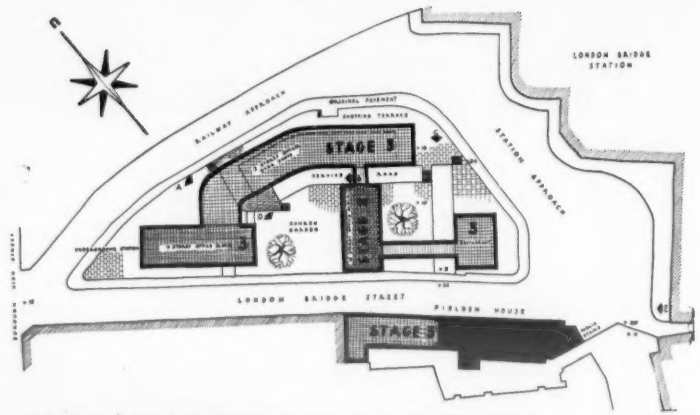
5

6, *rear view of Fielden House, from Guy's Hospital.*

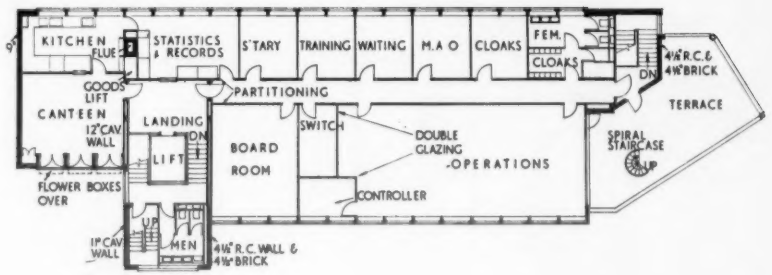
OFFICES IN BERMONDSEY, LONDON, S.E.1.

ARCHITECT: JOHN LACEY
ASSOCIATE ARCHITECT: C. F. TIMOTHY

Fielden House is the first stage of a redevelopment of the approach to London Bridge Station; it has been built as the headquarters of the Emergency Bed Service which is on the third floor, with lettable office and warehouse space on the lower floors. As the rear of the building, facing Guy's Hospital, is 25 feet lower than the front, which is on the raised station approach, these include two basements. The Emergency Bed Service gives a 24-hour service to hospitals and doctors requiring beds for patients in an emergency; the state of hospital accommodation in London is recorded visually on an operations room board in view of the controller and staff. The top floor carries a caretaker's flat. The wall adjoining the approach, although the property of the client, could not be used for support for fear of differential subsidence and so the east end had to be cantilevered from pile foundations set back 6 feet from the site boundary. The construction is largely of precast, and partly of in-situ, reinforced concrete. Wall columns at 5 feet 6 inch centres, precast in pairs, are joined by a sill member and form H frames.

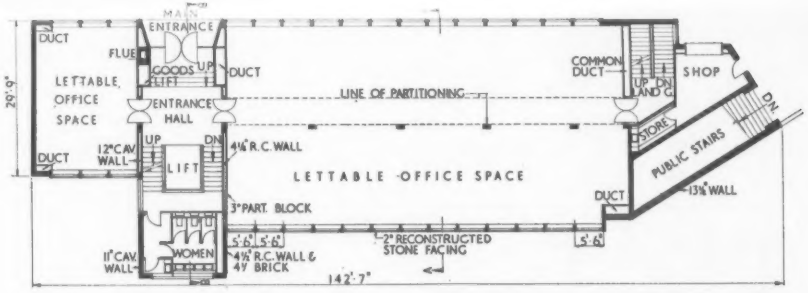


site plan showing Fielden House solid black and stages 2 and 3 of the development hatched



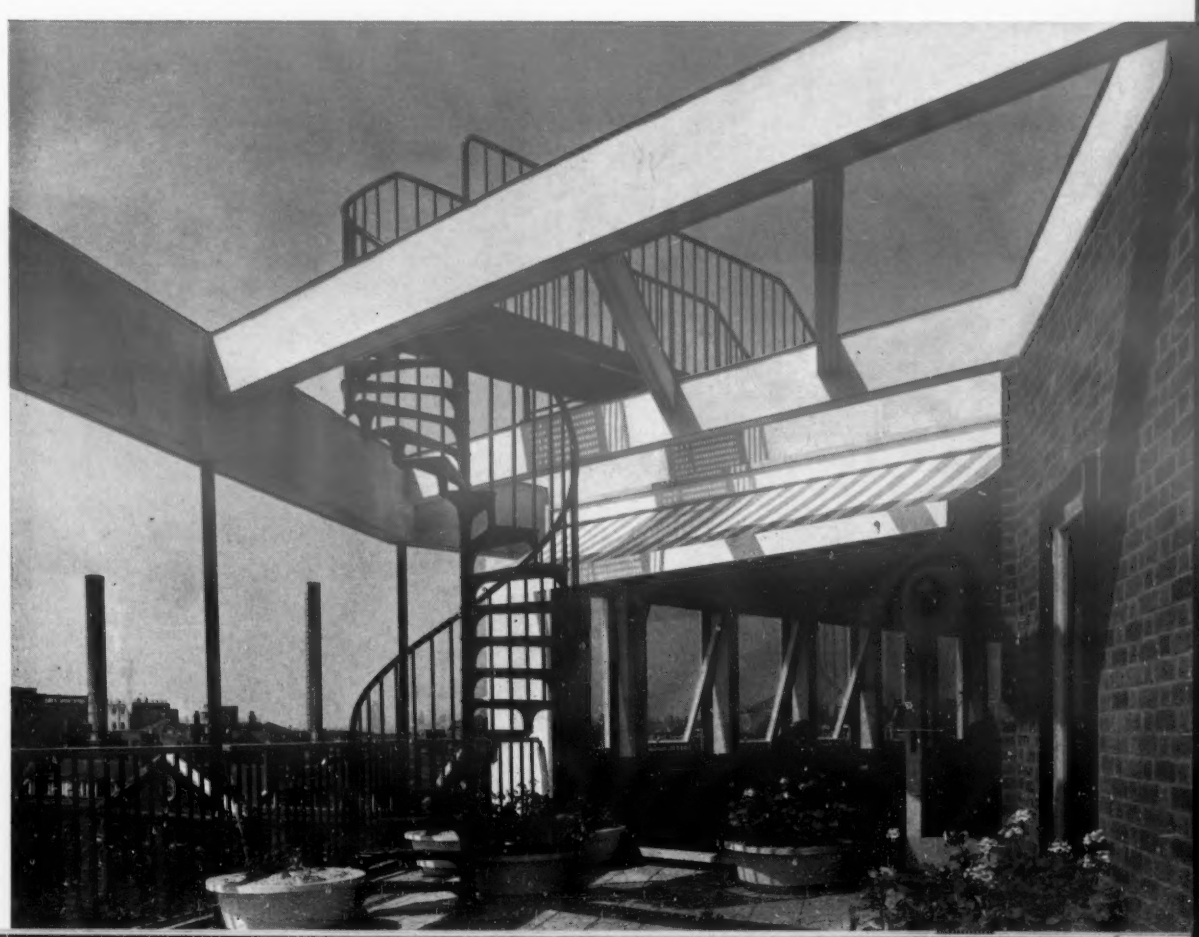
third floor plan

7, inside the operations room on the third floor.



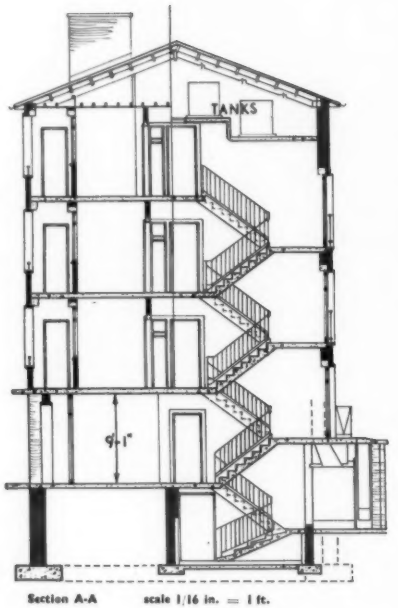
ground floor plan scale 1/32 in. = 1 ft.

There are secondary beams between the wall columns, and central reinforced concrete columns at 16 feet 6 inch centres. A central spine beam spans between these central columns and precast reinforced concrete trough units span between the secondary beams, from which are hung suspended ceilings of ¾-inch plaster on expanded metal. Pressure pile reinforced concrete foundations were used, with in situ caps and ground beams—as Guy's Hospital adjoins the site it was necessary to use the silent process of piling; the compressor was silenced by being bricked up under railway arches. On the third floor of the building there are no central columns, due to the greater need for flexibility of internal partitions, and the precast prestressed composite beams span 40 feet clear across the building. Below sill level there are panels of 4½-inch brickwork, faced externally with dark blue tiles and lined internally with 2-inch wallboard. At the east end of the building the walls are faced with hand-made deep red facing bricks, and 2-inch thick artificial stone is used as facing on beams and columns externally, and on the projecting staircase block on the west side. There is a plinth of black Neros Granite. Entrance hall walls are lined with Derbyshire fossil marble. The floors are wood blocks in offices, terrazzo on stairs and main landings and cork tiles in the operations room, which, for sound insulation, also has acoustic tiles on the ceiling. The purpose-made movable internal partitions, which can be placed at any mullion, are of leather cloth on 2-inch compressed strawboard in a softwood frame.



8, third floor roof terrace, looking into the operations room.

9, *the flats from the north-east.*

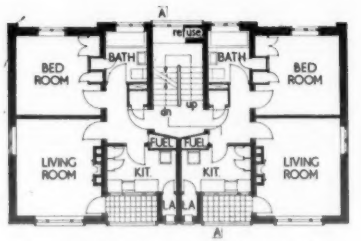


Section A-A scale 1/16 in. = 1 ft.

FLATS AT SHEPHERDS BUSH, LONDON, W.12.

ARCHITECTS: DUGDALE AND WHITAKER

This block of eight two-roomed flats, at 91, Coningham Road, was designed for the Borough of Hammersmith, on a site west of Shepherds Bush green. It has load-bearing brick walls and hollow tile reinforced concrete floors; the roof is timber, finished with wood-wool slabs and bituminous ply. The west (rear) façade is finished with a scraped grey rendering; the front and side elevations with yellow facing bricks. The foundations had to be taken down through 4 feet of consolidated hardcore. The balcony walls, underside of the eaves and soffit of the entrance canopy are painted bright red; the roof rafters project beyond the wall face and are painted yellow.



typical upper floor plan scale 1/24 in. = 1 ft.

LANDSCAPE

AVENUES

By derivation and by definition an avenue is an approach: hence the comment of Horace Walpole, in an age when avenues were out of fashion, that they might be allowed the function of announcing 'the habitation of some man of distinction'. A curious person might speculate about the first avenue: was it the result of cutting a road through virgin forest? The evidence suggests that it was not. In pre-Christian centuries the Egyptians and the Chinese both had avenues of stone figures; even Stonehenge has its avenue. The stones which formed these oldest avenues presumably performed a service analogous to that of which Horace Walpole wrote. One might go further and suspect that two stone figures on either side of a door would announce just so much dignity; four would mean so much more; and so on, as with umbrellas: the lord of twenty-four umbrellas was a greater man than the lord of six umbrellas, and a specially sacred spot might be marked by several umbrellas on top of each other—a pagoda. A hint of the same idea of rationed dignity may be observed in the nicely-varying amounts of gold braid on the caps of officers of different ranks.

When was the avenue idea first expressed with trees? There are two or three alleged 'oldest avenues in England,' but there seems, strangely enough, to be no 'oldest (tree) avenue in the world' or 'first known mention of a tree avenue.' Mr. Miles Hadfield has pointed out that Chapter 28 of 'The Travels of Marco Polo' contains this note of Chinese practice in the thirteenth century:

> There is another regulation adopted by the Great Khan, equally ornamental and useful. At both sides of the public roads he causes trees to be planted, of a kind that become large and tall, and being only two paces asunder, they serve—besides the advantage of their shade in summer—to point out the road when the ground is covered with snow. And this is of great assistance and affords much comfort to travellers. This is done along all the high roads, where the nature of the soil allows; but when the road lies through sandy deserts or over rocky mountains, where it is impossible to have trees, he orders stones to be placed and columns to be erected, as marks for guidance.*

At Koya-san in Japan is an avenue dating from very little after Marco Polo's time. E. H. Wilson, writing in 1916, noted that it was planted by a priest about 650 years before. It was about a mile long and consisted of *Cryptomeria japonica* varying from 125 to 180 feet in height: he agreed with Elwes that the trees of this avenue 'surpass in grandeur any other trees planted by man in the world.' Japan may, perhaps, also have the longest avenue in the world since the famous *Cryptomeria* avenue made in the Nikko Hills at the beginning of the seventeenth century extends to about 24 miles.†

The most plausible 'oldest avenue in England' is that formed by eight yews on the north side of the church at Westbourne in West Sussex—a short avenue believed to have been planted by the Earl of Arundel in 1544 when he did much to restore the church. But the yews in the garden of Sir Francis Drake's home at Buckland Abbey in south-west Devon, and the oaks of the roadside Bucklebury Avenue, near Newbury, 4, have both in their time been described as England's oldest avenue, and the long and much neglected yew avenue at Chilton Candover in Hampshire has even been credited with an age of 1,000 years—by people who ought to know better. 2 is a yew avenue at Bridport Church, Dorset. A lime avenue at Buxted in Sussex, 1, is said to date from 1630. Here, as at Chilton Candover and elsewhere, the great avenue has long outlived the mansion to which it formerly belonged. There are also one or two sweet or Spanish chestnut avenues reputed to be sprung from seed taken from ships of the Spanish Armada or planted to mark the failure of that attack: 3, though much later, is at Radley, Berks.

Charles II is said to have commanded the planting (in the year of his death) of the great double avenue of elms down the Long Walk at Windsor. The accession of William of Orange gave a fillip to the fashion for avenues of lindens or limes, since the new sovereign was fond of such avenues and had been accustomed to them in his native Netherlands—where some were planted at least as early as the fifteenth century.

The period 1660-1740 was in a sense England's great avenue age, and it is because in Britain most large trees other than yew and oak draw during their third century to the end of their safe or healthy life that we now read so often of the decay or felling of avenues.

But as many or more avenues must have perished untimely between 1740 and 1827 (in which latter year a writer on the recent changes in St. James's Park mentioned 'the best obliteration of avenues') as are now dying of old age. The new landscape gardeners and the dilettanti of the eighteenth century had little use for straight avenues, because straightness was contrary to 'nature,' and any avenue spared by Brown is considered to be worthy of mention for that reason alone. It is idle yet possibly amusing to speculate what Brown and Company would have done if Hogarth with his 'Line of Beauty' had lived a century earlier and most avenues had, accordingly, been planted in serpentine curves rather than in the straight lines of the school of Le Nôtre. Today, when we have many curving and twisting avenues, it is worth emphasizing that nearly all the old avenues were straight: there were a few semicircles, as part of the geometrical lay-out of such gardens as those at Hampton Court, 5, but any other departure from straightness was rare.‡

There was something of an avenue revival about the middle of the nineteenth century, possibly arising from a desire of the new rich to advertise 'the habitation of some man of distinction,' and there has never since been a violent anti-avenue fashion. Circumstances and treatments have inevitably changed and most of our larger avenues made in the last forty years are along public roads, while private avenues are usually on a small scale and calculated to form a graceful or merely pretty approach to the house rather than an impressive display of dignity: in short, silver birches or shrubs rather than tall forest trees. But the avenue idea lives on.

Elm, 7, beech, 8, and lime, 9, were the three favourite species for great avenues; hornbeam was also used, but has long since passed out of fashion; oak and sweet chestnut seem never to have been in high favour for avenue planting. Perhaps oak was felt to be both too common and too slow in growth. But the relative neglect of sweet chestnut is not easy to explain. Scots pine and sycamore and ash are three more species, at once handsome and wind-firm, that might have

* The passage would seem to suggest that the writer had not seen any tree avenues, as a recognisable or named feature, in Europe.

† References to both these avenues may be found in Dallimore and Jackson's 'Handbook of Coniferae' under *Cryptomeria japonica*.

‡ The Bucklebury oak avenue is one of the few exceptions.

been used more freely. Buxted's, 6, is the only good Scots pine avenue in the southern counties known to me and I have yet to see a good ash avenue. John Evelyn commended the robinia or false-acacia (later to be the locust tree of Cobbett's eulogies) but though its attractions are evident, it does not seem to have been much used for avenues. The tulip tree, known to have been introduced before 1688, and the liquidambar which came about the same time, were doubtless both too rare and too costly for use in avenue-making during the first great avenue age, but it is, perhaps, surprising that they have not been planted more freely since: the tulip tree may be found in some continental cities, but in this country avenues of the species would seem to be very rare: the example at Westonbirt is sometimes mentioned, but this is in fact a mixed avenue: cedar, tulip tree, linden, tulip tree, cedar. . . . Ashridge's liquidambar avenue is the only notable example that comes to mind, since the trees in the extension to the National Pinetum at Bedgebury are still too young and formless to please. Taxodium, another of the earlier American introductions, might be the perfect species for a canal avenue if some modern millionaire should develop a taste for making a grand garden inspired by William and Mary styles. Walnut avenues must certainly be rare and I know of only one mulberry avenue in the United Kingdom—in the royal gardens at Frogmore, 10. (Lambay Island, lying off the Irish coast no great distance from Kingstown, has another.) The rarity of mulberry avenues is, perhaps, remarkable since the black mulberry was very widely propagated by James I, as everyone knows, and the species is long-lived and eminently suitable for the making of that 'My Lady's Walk' kind of avenue so much favoured in gardens of the 1660-1720 period. And even to this democratic day the mulberry tree has a certain air which might please those who like 'to hear the coronets tinkle,' for everyone has heard the saying that a mulberry on the lawn gives a patent of nobility to any garden. On a different scale and in a different setting the cedar of Lebanon, 11, has comparable qualities, but effective cedar avenues are, unfortunately, few.

The horse-chestnut is, of course, a famous avenue tree, while the holm oak is, perhaps, too sombre: a long and wide avenue of holm oak stands at Holkham. The London plane, the English hybrid between the oriental and occidental species, was doubtless too rare before the first avenue age ended, but it has since been widely used not only in London and other places in England but also on the European mainland and in America. The quality of smoke-tolerance has given it a great advantage over most other trees. It is worth noting that the London plane was the species chosen for the planting of the royal avenue along the Mall and that it is also one of the two species (the other being the horse-chestnut) used for replanting the Long Walk at Windsor: the intention here is to have eventually a single-species double-avenue, but the decision on the species will depend largely on which of the two grows the better.

One of America's favourite trees for urban avenues is the Ginkgo or maidenhair tree, first introduced from China into Britain just 200 years ago, in 1754, though I do not know of a Ginkgo avenue in this country. The Lombardy poplar, introduced in 1758, became a favourite avenue tree a century or so later: other poplars have not been so widely used: the scent of some of the balsam group has won them a few patrons, but the relative weakness of poplar timber brings obvious dangers. A few Victorian avenues were made of the American red oak (*Quercus borealis*, syn. *rubra*) which had been introduced in the eighteenth century, and possibly our New Elizabethan age may see a few avenues of the lovely *Davidia involucrata*.

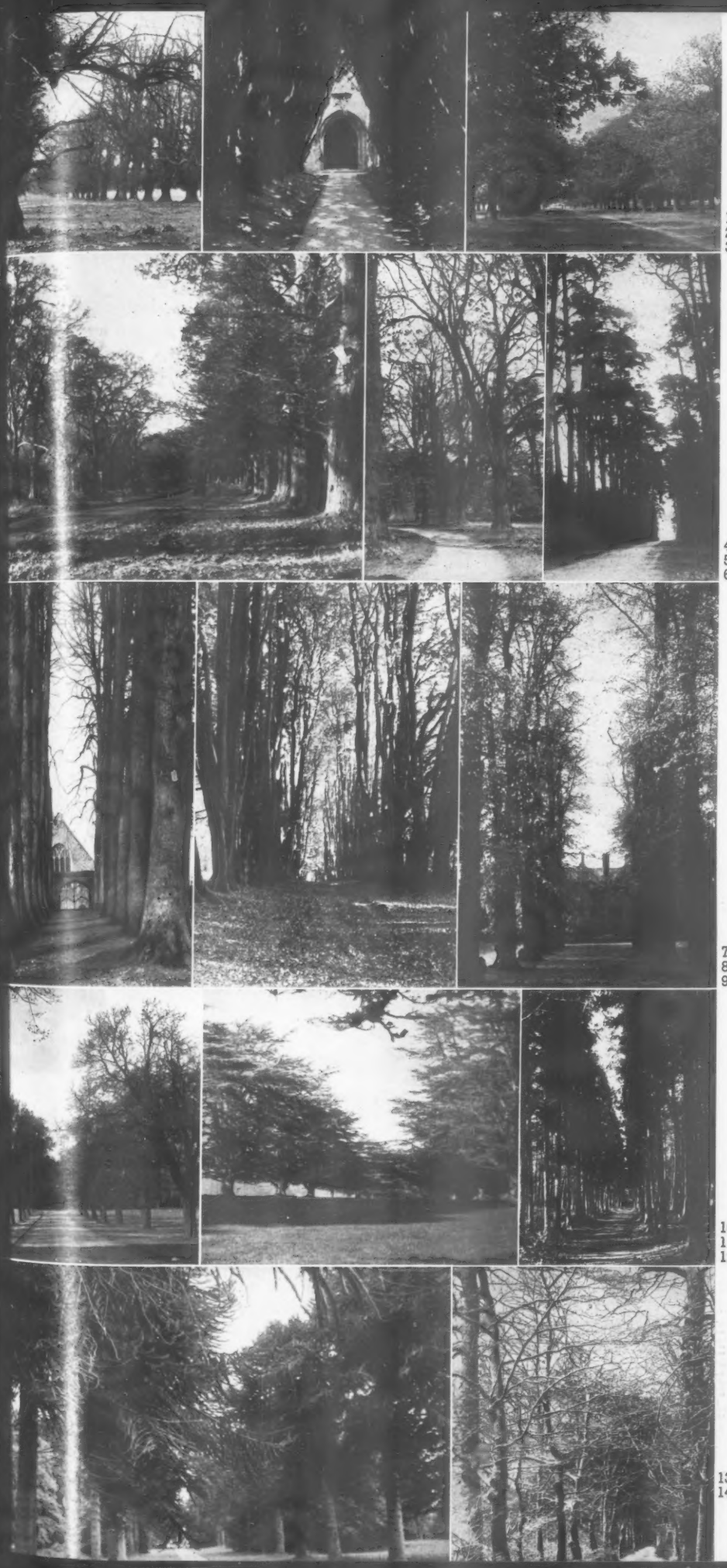
Of the great American trees introduced between 1825 and 1855 the Wellingtonia seems to have been considered by the Victorians to stand in a class by itself as a potential avenue tree, though the redwood, Douglas fir, grandis silver fir, Lawson's cypress and western Thuja, 12, might all be just as good in appropriate positions. The monkey puzzle or Chile pine, which was to most intents and purposes an introduction of 1844, was freely used for avenue-making, but tastes have since changed and monkey puzzle avenues are now rare. Perhaps the best surviving example is the one at Bicton in East Devon, 13, which dates from between 1843 and 1846 and contains a tree believed to be the largest monkey puzzle in England.

Two general observations may here be ventured. First, considering the time that we have had avenues, and the numbers that have been planted, extremely little has been written about them, either historically in the way of cataloguing, recording and comparing or more practically in advice about treatments. Second, remarkably little ingenuity has been exercised. The problem of succession, for example, seems to have received little attention until the time when an avenue has to come down. Should it not be possible to borrow from forestry the technique of underplanting with a shade-tolerant species of tree. Or, to go further, might not avenues be contrived on a *Dauerwald* or perpetual forest principle—avenues of mixed species and uneven ages. It is true that avenues which are uneven because of much patching—the planting of young trees to replace losses—are seldom a success, but then such avenues were intended to be regular, precisely balanced and formal; when patched, they represent a broken regularity, a failed formality; but the present suggestion is for a plan (such as Addison's Walk at Magdalen College, Oxford, 14) which from the beginning would make no pretence of regularity or formality. There would doubtless be difficulties, but the planters of today would be far better off than their forbears of William and Mary's time, when barely half a dozen good shade-tolerant species were available. Since then we have received such excellent trees as *Thuja plicata*, *Tsuga heterophylla*, Lawson's and Nootka cypresses, and among taller light-demanding trees there are the Atlas cedar, the redwood, *Cryptomeria japonica* and red oaks and improved silver birches from North America.

Something of the same criticism may be applicable to the smaller avenues—the files of trees that stand beside a forty-yard drive from the main road to the front door of a six-bedroom house in the outer suburbs. Cherries in variety, silver birches, pollard limes—yes. But how often the human imagination, when considering the floor, has stopped at (or before) crocuses, daffodils and narcissi! Where are the modern avenues gay with wild windflowers or *Anemone blanda* or *A. appenina*? Or with *Tulipa sylvestris* or the half-shade-loving and wholly-fragrant butterfly orchis, or the charming outdoor cyclamen of the autumn? Many small twentieth century avenues lend themselves to such treatment on the principles of the medieval paradise—the garden made by planting flowers, indigenous or introduced, informally in the grass under fruit or other trees—and developments of this kind might be expected to appeal to contemporary English preferences for naturalism and freedom in the garden.

Avenues have a wonderful depth historically and geographically: the avenue motif connects people separated by at least 2,500 years and 6,000 miles, and it touches at such oddly various points as Egyptian deserts and Japanese mountain shrines, fifteenth century Dutch canals and seventeenth century French chateaux. While the different avenues are recognizable as avenues, the idea is extraordinarily flexible: not only do avenues make excellent links between town and country or between garden and park, but they may be used to express dignity and grandeur, prim formality and light-hearted whimsicality, joy and solemn grief. Avenues are always being explored, but they still have something more to offer. Time may yet bring a Master of Avenues who will use the form as Bach used the fugue.

J. D. U. Ward



EXHIBITIONS

THE VENICE BIENNALE

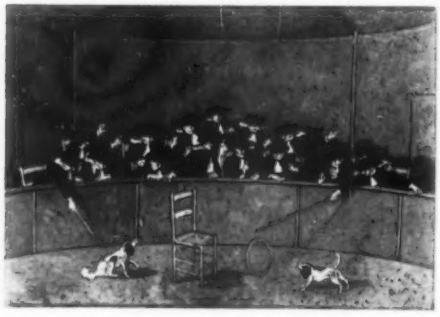
Surrealism is the official theme of the 27th Biennale in Venice. Three of the rooms in the Palazzo Centrale are devoted to retrospectives of Ernst, Arp and Miro, and several national pavilions have dutifully included work which might be said to have a surrealist tendency, but only the Belgian pavilion has succeeded in recapturing the atmosphere of ferocious eroticism which was surrealism's raison d'etre. Belgium has supported its twentieth-century contribution with a group of early paintings and engravings in a way which is an object lesson in presentation. These historical works are small in size and number and occupy two small rooms at the entrance to the pavilion, but they range from a Bosch triptych of Paradise, Purgatory and Hell (which draws fine distinctions between the shameful and the shameless) to a Temptation of St. Anthony by Teniers, and they are so brilliantly and horrifyingly inventive, and concentrate so obsessively upon outrageous conduct that they spit at the eye like frying fat, and the visitor escapes into the rooms filled with large paintings by Magritte and Delvaux as if from the

1

flames of Hell. It is an escape into a world no less obsessed with eroticism but mitigated by romantic illusion. Some of the recent paintings of Magritte and

Delvaux are as fine as anything they have done, and they continue to create a marvellous air of expectancy by means of naïve juxtapositions and a patient, nineteenth-century realistic technique. Magritte's large painting of a night scene with a sunlit sky, 1, dated 1954, is one of his most persuasive inventions. He is now fifty-six years old, and Delvaux is fifty-seven, and they remain forever and enchantingly adolescent.

The Italians have contributed only the unlovely work of Savinio to the official theme, although it provided excuse enough for a display of their charming young fantasists, one of whom, Nino Caffe, has been showing his droll pictures of priests at play, 2, at Arthur Tooth's. As in



2

previous years, the majority of the painters follow with grim exhuberance the latest trends in Parisian abstraction. Capogrossi is perhaps the most original of them, and he has a roomful of large canvasses, spattered with little emblems like stubby printers' 'fists,' which are quite ravishingly decorative, but the big national prize has gone to Santomaso, who is a follower of Hartung. His room contains several of the pictures that were recently exhibited at the Hanover Gallery. Avro, of whom we have heard so much, is disappointingly austere about nothing in particular, and Moreni, in a group of gigantic, energetic, crudely coloured works, seems to be first in the field with an Italian version of 'action' painting. In this connection, Canada makes its first bid for contemporaniety by exhibiting Canadian-born Riopelle, the popular Parisian actionist. But Australia's Sidney Nolan, exhibiting paintings from his Ned Kelly series, is a much more interesting painter.

There are no paintings in the huge Italian section comparable with the lovely work by Morandi, which has just been shown at the New Burlington Galleries under the auspices of the Arts Council. His dusky little paintings of bottles and vases huddled together against the world, lead the intense, secret life of families which keep to themselves, and a typical work, 3, painted in 1949, has, inexplicably, some of the haunting poetry of Picasso's Rose Period saltimbanques.

3

Some of the Italian sculpture at the Biennale is on a higher level than the paintings, and Mirko's figures and animals, whose surfaces are covered by raised decoration, are among the most distinguished bronzes on view. He is also showing an interesting abstract in pierced and raised sheet-metal which is to be a permanent feature of one of the outer walls of Miss Guggenheim's Venetian palazzo. Marcello Mascherini, whose work I have not seen before, is showing a number of cool, refined, extremely man-

4

nered bronzes, 4, which are distinctly preferable to the feverish extravagance of Fazzini, who has been given the large room so splendidly occupied by Marini's work in the last Biennale. Fazzini's attempt to treat Marini's favourite subject —a startled horse and rider—is a horrid affair of senseless, soft writhings.

The French Pavilion is once again overflowing with an untidy miscellany which seems rather transparently to reflect the present market situation. The space allotted to Survage and Lhote suggests that they are about to be 're-considered,' but their work remains obstinately commonplace. The exhibition of Fauves in the far room must be the silliest on record, since only one of the five painters shown is represented by a work of the fauve period. The abstractionists are in force, and three recent works by de Staël are particularly noticeable, for they are bright and hard and empty as the work of his London imitators.

The British pavilion maintains its high standard of presentation. The exhibition of lithographs is weak, but the paintings of Nicholson, Bacon and Freud have never been seen to better advantage. The Venetian light has not modified one's sense of the serene accomplishment of Ben Nicholson, but it treats Bacon as the most elegant of our painters. It brings out the impressionistic irridescence of the landscape in the Tate's 'Study for a Composition' and the superb, Soutine-like painting of the meat in the Museum of Modern Art's picture. It also emphasizes the insousiance of the brushwork in the sketchy later pictures, so that the subject-matter seems remote, as if it were a vague memory of things that were painful a long time ago. Lucian Freud, after a period of gloomy realism in which he made great technical strides, is now recapturing the sparkle of his early work, and his latest autobiographical study of sleeping and staring, 5, almost ranks with the well-known 'Kitty with a Rose.'

Max Ernst was awarded the International Prize for painting, and Mirò, who is a more consistently brilliant painter than Ernst and makes a better showing at the Biennale, received an award for a fine set of lithographs in the Spanish pavilion which was in the nature of a consolation prize. But the Ernst show makes it clearer than ever that his contribution to painting is his series of semi-automatic 'forests.' The examples on view are not the finest: two of them are spoilt by the addition of irrelevant symbols, another one, borrowed from a London collection, 6, is only seen at its best in the twilight, when it acquires a mysterious phosphorescent glow. Yet, although Ernst

5

6

is one of the most uneven of painters, and although even the forests have their faults and lapses into bad taste, he is among the most imaginative artists of our time, and the best of his forests are probably beyond Mirò's range.

Robert Melville

CERAMICS

POTS IN ROWS

The taste for profusion is with us again. Suddenly there is a general feeling that a lot of ornaments in a room is inviting and reassuring, and fortunately a contemporary style in lavishness has emerged to offset the threat of the overloaded mantelpiece and the encumbered wall. It has been created by museum directors and exhibition designers, and can be seen at its best at the Antibes Museum where the permanent collection of Picasso's exuberant pitchers and platters are marshalled into long single rows. Margaret Casson and Alec Heath in their handling of temporary exhibitions have also demonstrated the decorative effectiveness of the rigid line of related objects. In the exhibition which Margaret Casson arranged for *The Observer*, a row of plates decorated by Victor and Wendy Pasmore was particularly memorable from this point of view. There were only four of them, but each one was decorated with a different version of a 'broken spiral' motif, and the variations revealed a degree of skill and imagination which could not have been conveyed by a solitary specimen.

The serial scheme creates a sense of profusion without dislocating or granulating interior space, but it demands objects with a 'family likeness.' Repetitions of an object and heterogeneous collections of objects are equally unsuitable. An assembly of the ceramics of a good studio potter inevitably reflects his instinctive form-preference and provides the stylistic unity essential to serial display. The ceramics which illustrate this note typify some form-preferences and contrast some contemporary styles.

Hans Coper was a sculptor before he became a potter and is concerned almost exclusively with the making of large stoneware pots. Their curves usually sweep down without interruption to a narrow base (see AR, Vol. 112, No. 674, p. 344), but the ridge which encircles his recent white and black inlaid pot, 1, introduces a complex momentum; there is a ponderous curve above the ridge, a quickly narrowing one below, and at the same time the upper curve flows through the barrier and moves towards the base at its own speed. The brilliance and subtlety of this play with curvature becomes even more apparent when two or more of Coper's works are close together.

He shares a studio with Lucie Rie, and his grave and monumental pots stand about amidst her more useful vessels—her cups and saucers and teapots, 2—like objects lost in thought. The work of these two potters has a good deal in common, but is

1

never indistinguishable even when Miss Rie essays a large pot. If his things have a meditative air, hers have an exquisite decorum, and their application of incised decoration emblemizes this difference: Coper's lines meander over the surface of his pots in an exploration of contour, but Miss Rie's make a formal overall pattern or a neat cross-hatch band like fine stitching. They exhibit regularly at the Berkeley Galleries, Davies Street.

At Primavera's in Sloane Street one can always find some examples of the ceramics of two French craftsmen who, like the other two, share a studio but are far from sharing a style. Again it is the

2

3

4

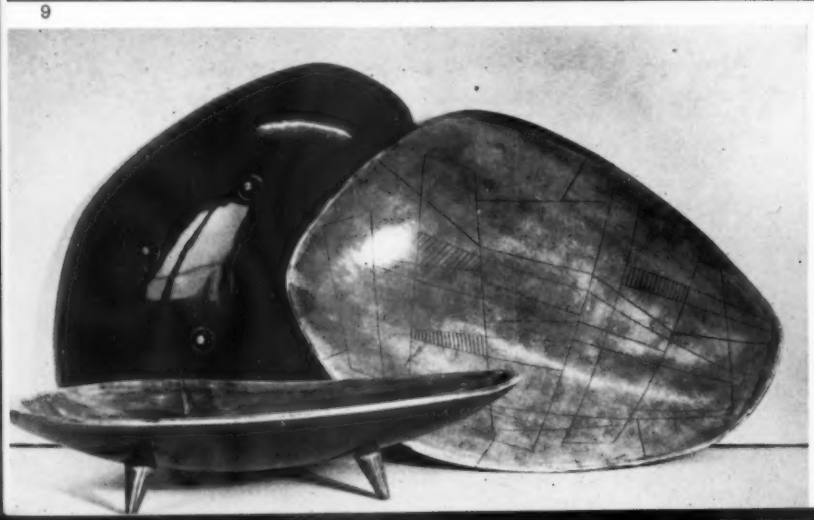
5

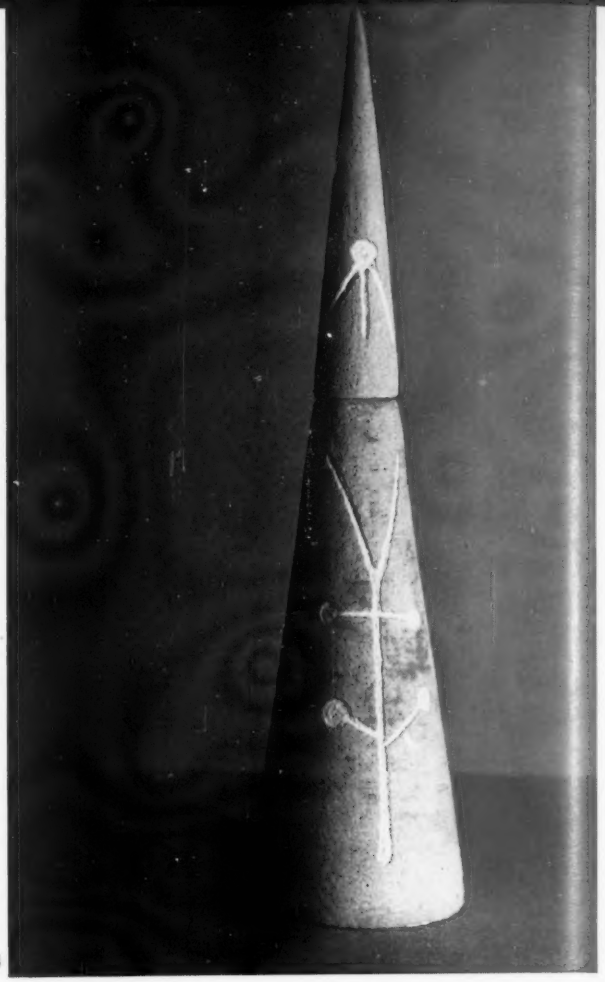
ceramics: pots in rows

3 by Francine Delpierre, 4 and 5 by Albert Diato, 6 and 7 by Catherine Yarrow, 8 by James Tower, 9 by David Queensberry.

8

9





6

7

woman, Francine Delpierre, who pays a graceful, if remote, tribute to usefulness. The surface decorations of her work are amiabilitiers to which her light brush-strokes and soft, translucent colours impart distinction; but her most valuable contribution springs from her tenderly obsessive feeling for secretive vessels with small openings, 3, which look as if they were specially made to contain preserved twilight.

For her friend, Albert Diato, pottery is a meeting-place of sculpture and painting, and the perfect vehicle for his serio-comic inventiveness. The whimsicality of his richly painted, fantastically shaped animals is permeated by a pathos akin to that of Lear's best nonsense poems. The two creatures hauling a tiny cart with prodigious effort, 4, and another with the keen little face of a whippet surmounting the almost immovable bulk of its body seem to have been fetched from the outback of an imaginary Australia, 5.

Catherine Yarrow, too, in her unglazed painted earthenware objects, has somehow managed to side-step the pitfalls of whimsy and subdue some of the echoes of the ethnographical museum. She does not yet share the technical assurance of the others. Her work has the kind of charm and naive daring that we associate with the sculpture of certain famous painters, and she is herself a painter who has frequently exhibited in Europe and America. But she now devotes most of her time to pottery, and such objects as the 'Pyramid,' 6, manage to seem so simple and direct that they approach the anonymity of popular art, 7. She has exhibited her pottery at the ICA and at the gallery of Roland, Browse and Delbanco in Cork Street.

James Tower, who studied art at the Slade and Royal Academy schools, began his career as a painter and graphic artist, but he is now a full-time potter, and probably has more influence on the younger generation than any other worker in this field. He is certainly the most inventive of English potters and although, given his background, one might have expected this inventiveness to show predominantly in his decoration, he is developing a profound feeling for organic form. In fact, there is now so close a correspondence between his surface design and his shapes and volumes that they seem no longer to be separate functions. The design opens and closes and follows the course of a pot's 'growth' with the inevitability of the markings on sea shells, 8. He is a regular exhibitor at Gimpel Fils.

Mary Hammond's magnificent slipware bowl in black and white with pale blue flecks is a *tour de force* of a kind that can occur only after long experience and as a result of professional skill of a very high order. The bowl itself is finely shaped, but the treatment of the inner surface gives it a most unusual forcefulness: the steady downpour of thick, white lines and their sudden swirling absorption into the black underglaze is so consumately handled that it has the look of a natural phenomenon, and gives the shallow black centre of the bowl an illusion of unlimited depth. It is probably too dramatic to be put into a line of objects. Hammond is a member of the Crafts Centre of Great Britain, Hay Hill, W.1.

David Queensberry, who is living in the Potteries and applying himself to the many skills that can be acquired there, is already an artist-craftsman of distinction. His refined and subtle feeling for slightly asymmetrical ovals, the simplicity of his applied decoration and the candour of his glazes give his dishes an air of cool assurance. The single specimen is a study in precision; a group of them, 9, confirms the potter's own sense of the inexhaustibility of his favourite form.

Robert Melville

BOOKS

NEW COLLEGE

NEW COLLEGE OXFORD AND ITS BUILDINGS. *By A. H. Smith. Oxford University Press.* 21*s.*

Oxford, as F. W. Maitland once observed, may well be envious of Cambridge's *Architectural History*, and her inferiority in this respect is much to be deplored. In the case of New College, however, the architectural development of the college has been carefully worked out by Professor A. H. M. Jones for the forthcoming Oxford volume of the *Victoria County History*, and it is only the delayed publication of the latter which has given Warden Smith's book the priority. Nevertheless, the Warden's book is one of the very few to be devoted to the buildings of a single college, and it is likely to remain a work of permanent value. For this is something more than an architectural monograph: it is a book of which the subject is 'not the buildings of the college but the college and its buildings,' and the writer has been remarkably successful in showing how the architecture of New College reflects the vicissitudes of its corporate history. The undergraduate (for whom especially it was written) will find in it an admirable introduction to the complex of buildings among which he is to live and work, and for the future historian of the college the Warden's detailed account of his own alterations and projected restorations will be a document of great interest.

For the professed historian of architecture, however, the book may in some respects be a disappointment. For instance, the possibility that the founder intended to build a full nave on the site of the present cloisters is dismissed without reference to the arguments advanced by Mr. E. A. Gee in his thesis on the Collegiate Architecture of Oxford; and in his account of the Garden Quadrangle Mr. Smith might have pointed out that the abandonment of Byrd's original design for a closed quadrangle of the conventional type, and the adoption in its place of a recessed treatment, may not have been unconnected with his engagement in 1683 to build Winchester Palace on a similar plan. Nor is the documentation infallible: for Richard Piddington, not William Townesend, was the mason who built the south-east block of the same quadrangle in 1700, and there are some New College documents in the Bodleian Library which might have been used to throw further light on the alterations by James Wyatt in 1789-93. But these are minor deficiencies in a book which does not in any case profess to be based on original research: and if Oxford as a whole still lacks her 'Willis and Clark,' New College at any rate may be congratulated on this sympathetically written and agreeably produced history of its buildings.

H. M. Colvin

ENCYCLICAL

FORM. *By Max Bill. Verlag Karl Werner, Basel. Distributed by Alec Tiranti.* £3.

The elaborate and ostentatious boredom with which some recent orthodox and sincere works of Modern Movement theory (nearly all from Swiss sources) have been received in England suggests that the cries of 'old stuff' may be the defences of an uneasy conscience, and the convinced, quietly positive tone of Max Bill's *Balance Sheet of . . . Design* may have the same doze-disturbing effect as do party slogans to an old revolutionary, or religious dogmas to a relapsed heretic.

Though the material in this book is all as up to date as any international collection of fully-approved product design can ever hope to be, the basic theoretical standpoint, from which both text and captions are written, has barely advanced from the 'Machine Aesthetic' of the nineteen-twenties. In this sense the book is indeed old stuff. We have all painfully learned that good materials and sound craftsmanship are no guarantee of the ultimate appearance of the article, and that the effect of sound functional design on its eventual shape is apt to be rather indirect as well. But to caption *illustrations* solely in terms of the material/function nexus is to imply that these considerations do affect the object's appearance in some visible way.

In the days of the Machine Aesthetic this was undoubtedly true—a series of rectangular coincidences brought architecture, automobiles, abstract art, aircraft and other engineering structures into the condition where the material/function concept had visible and rectilinear consequences. These days were already over by about 1931, when Walter Gropius' designs for car-bodies had already become *rétardataire* automotive design, though they were magnificent architecture. When aircraft began to retract their wheels the Machine Aesthetic was dead. But its ghost lingers on because no one has yet devised a substitute theory with the same moral

authority, and to read Max Bill as he discourses on product design with the same quiet authority and about the same depth of understanding as a GI holding forth on Democracy, is bound to be disturbing to anyone who has quietly resigned from the Machine Aesthetic.

The weakness of this abandoned position is perfectly apparent, for all that, and in his inability to do anything except *reject* Borax, Max Bill reveals the ultimate art-snobbism of those who hold to the old standards. Whatever its faults, Borax is a valid design idiom whose strength derives from the fact that (*pace* Siegfried Giedion) its sources lie ultimately within the traditions of twentieth century technology—that it is a sort of peasant art whose strength lies in a popular science-fiction admiration of the aeroplane and the sports-car. In spite of these basic faults of the text-matter, they are only minor blemishes on its status as an authoritative picture-book. That task it fulfils admirably and it would deserve a place in every design library, were it only half the price.

Reyner Banham

ATHENAE ANTIQUAE

THE ANCIENT CITY OF ATHENS. *By Ida Thallon Hill. Methuen*, 1953. 25*s*.

The last book published in English on the monuments of Athens appeared forty years ago, while none in any language is less than twenty years old. During that interval an enormous amount of knowledge has accumulated, through excavations on an unprecedented scale as well as through chance finds, so that it is indeed true to say that this book fills a need. Mrs. Hill is well qualified for the task; her long residence in Athens has allowed her to participate in or to watch the excavations of a generation, and to obtain at first hand unpublished facts and interpretations from the excavators. Unquestionably no one concerned with the subject can do without this book.

After preliminary chapters on prehistoric Athens, the arrangement follows that of the description which Pausanias wrote in the second century. Ancient information about the original appearance and functions of the buildings is used to the full, in conjunction with the archæological evidence, to supply a coherent picture of the city throughout its existence till it became Christian.

Readers who are architects may, however, regret the proportion of space devoted to the earlier remains, which are generally in too poor condition for æsthetic appreciation. Like everyone else whose mind has been habituated to research, Mrs. Hill is less interested in established facts than in current problems. She has conscientiously given all the necessary particulars about the monuments which date from the time of Athenian independence, but becomes steadily less informative as the dates advance. On Hellenistic buildings, even if recently discovered, she writes briefly, and the account of the 'Tower of the Winds' ignores much of the detail which influenced Soane and other English architects.

A. W. Lawrence

EYE-VIEW

INDIAN TEMPLES. 135 *photographs chosen and annotated by Odette Monod-Bruhl with a preface by Sylvain Lévi. 2nd edition*, 1952. *Geoffrey Cumberlege, Oxford University Press*. 25*s*.

This is the sort of publication that would make an admirable display for an Indian travel bureau, a popular picture-book no better and no worse than countless other illustrated brochures that should give the reader an enjoyable half-hour turning over its plates of magnificent views and exotic works of art from India and Nepal. Another fifteen minutes spent in reading the preface by Sylvain Lévi provides a painless thumbnail sketch of Indian history and religion. The notes at the back of the book are hardly more than identifications and descriptions of the subjects of the plates, marked by a regrettable inconsistency in spelling and the omission of the location of Indian works of art in museums.

Many of the reproductions will be rewarding even to serious students, since they are chosen from other sources than those we usually find in general books on Indian art. The original prints were undoubtedly superb, but often the collotype process tends to confer an unfortunate fuzziness and flatness on the reproductions, especially those of the more complex architectural subjects where clarity of definition is essential. Perhaps the one aspect of its content that recommends a gift book of this type is its illustration of scenes of Indian ritual and Indian life, together with a number of superb views of the crystalline fastnesses of the Himalayas, subjects that confer an aliveness on the works of art and architecture, for which they are at once the inspiration and the eternal background.

Benjamin Rowland

Shorter Notices

THREE REVOLUTIONARY ARCHITECTS: BOULLÉE, LEDOUX AND LEQUEU. *By E. Kaufmann. Transactions of the American Philosophical Society. New Series, Vol. 42, part 3*, 1952.

Dr. Kaufmann is an unlucky man. There can be no question that it was he who made Ledoux. No one had taken much notice of Ledoux, his peculiar style and its relevance to our day, until Dr. Kaufmann published his first paper in 1930 and his book *Von Ledoux zu Le Corbusier* in 1933. One year later the first monograph in France came out, and in 1945 the only book on Ledoux fairly well known abroad, the one by Raval and Moreux of which, as Dr. Kaufmann sadly proved in the *Art Bulletin*, Vol. 30, whole passages, let alone the dominant point of view, were lifted from his writings. Later, his research led him on to the man who seems to have been the chief inspiration of Ledoux, Boullée (*Art Bulletin*, 1939) and also to Lequeu (*Art Bulletin*, 1949). Now at last he has been enabled to offer a book on all three and what they stand for, and there again, the book is published somewhat obscurely, illustrated with extremely small pictures and written too heavily to carry that power of conviction which the interest of the works discussed and the extent of Dr. Kaufmann's learning should command. The historical and stylistic problems set by what Dr. Kaufmann calls the architects of the French revolution, are all indicated, but, owing to Dr. Kaufmann's literary style, they cannot be regarded as solved in such a way as to become public property. One longs for something like the sensitivity of treatment given to Dance and Soane in Mr. Summerson's paper in the *Journal of the RIBA*, January, 1951.

The American Philosophical Society deserves one's unqualified gratitude. To produce a book of 130 pages with 284 illustrations on three relatively unfamiliar architects—and a book at that which was obviously conceived for a 'third programme' audience—is a publishing feat, especially as the book is offered for sale at only two dollars.

P.F.R.D.

VICTOR BOURGEOIS: ARCHITECTURES 1922–52, *with an introduction by Pierre-Louis Flouquet. Brussels, Editions Art et Technique.*

The disregard into which the work of Victor Bourgeois has fallen outside Belgium is partly due to the accidents of war and time, and an economic situation which has made it difficult for students from this country to devote much time to study in Belgium since the war, and partly to an architectural case-history which is not unlike that of André Lurçat. From being one of the key figures of the heroic age of the international style he has progressively (and almost certainly deliberately) withdrawn himself from the public view and from any notably personal qualities of design. Though the intellectual and economic development of Belgium since 1930 might seem to be largely responsible for this, an examination of the chronological record afforded by this book shows a consistency of development which suggests internal and personal causes as well.

One might easily be led to regret this, for the work of the early twenties was extremely advanced and shows a close understanding of what was then being achieved, or had just been achieved in Holland and elsewhere—the *Cité Moderne* outside Brussels, which shows a quick grasp of the stylistic implications of *de Stijl* and a thorough understanding of the intentions of Adolf Loos and Tony Garnier, was built in 1922 and thus antedates, by a short margin, any work of comparable quality in France or Germany. The magazine *Sept Arts*, of which Bourgeois was a founder and co-editor, was among the select body of periodicals which spread the gospel of reformed design in Europe, and his statesmanship did much to hold together the early meetings of CIAM. But any regret that such a figure should have fallen out of public notice should be tempered by the thought that he himself, unlike some architects who feel compelled to suppress their less interesting work, has been quite happy to have these later and less obviously interesting buildings and projects appear in this book. And any temptation to dismiss them as a dull decline will also be qualified by an understanding of the social and functional implications which can be sensed about them.

P.R.B.

Books Received

PROFESSIONAL PEOPLE. Roy Lewis and Angus Maude. Phoenix House. 18s.
GOTHS AND VANDALS. Martin S. Briggs. Constable. 30s.
ARCHITECTURAL DRAWINGS IN THE BODLEIAN LIBRARY. Bodleian Library, Oxford. 2s. 9d.
2,000 YEARS OF ENGLAND. John Gloag. Cassell. 18s.
DESIGN AND DECORATION IN THE HOME. Noel Carrington. Batsford. 30s.
ART IN MODERN ARCHITECTURE. Eleanor Bittermann. Reinhold. $10.
PARIS. Andre George. Nicholas Kaye. 21s.
ROOTS OF CONTEMPORARY AMERICAN ARCHITECTURE. Lewis Mumford. Chapman and Hall. 56s.
SAINT ETHELDREDA'S AND ELY PLACE. Linwood Sleigh. Paternoster Publications.
THE ORIGIN AND DEVELOPMENT OF EARLY CHRISTIAN CHURCH ARCHITECTURE. J. G. Davies. S.C.M. Press. 21s.
LIGHTING IN INDUSTRY. British Electrical Development Association. 9s.
MODERN ARCHITECTURAL DESIGN. Howard Robertson. Architectural Press. 25s.

SKILL

A MONTHLY REVIEW
OF BUILDING TECHNIQUES & INDUSTRIAL DESIGN

The interiors on the following pages are all the work of F. M. Gross (once a pupil of Adolf Loos) and show the growing acceptance by manufacturers and businessmen of the new decorative idiom.

1, the photographic display column.

1 INTERIORS

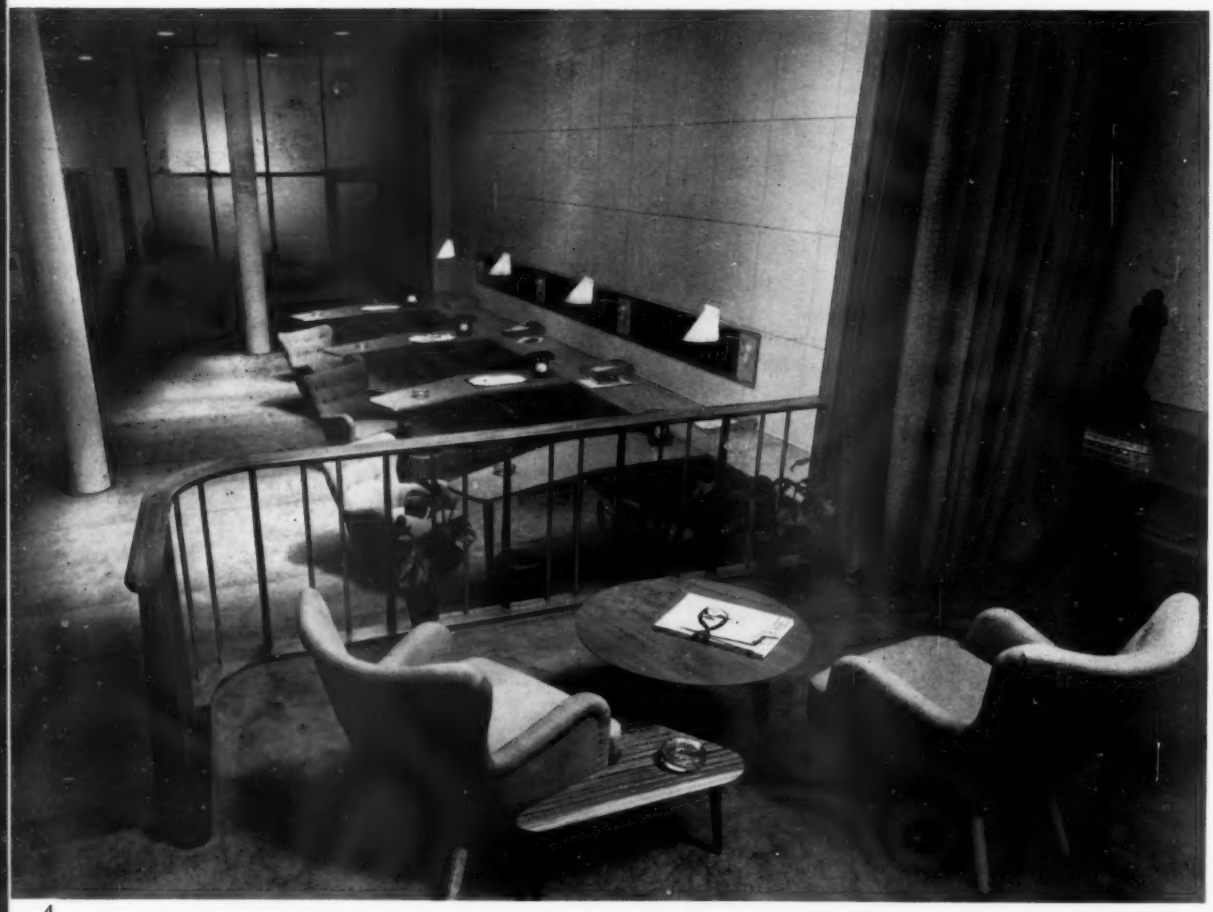
MARINE ENGINEERING SHOWROOMS

These permanent showrooms at Duke Street, London, W.1., have been built to display diesel and oil engines to visiting clients at the firm's head office, the unavoidable factory-like appearance being softened by using pastel coloured bases, and by a permanent flower arrangement round the stage. The engines themselves are silver grey with chromium-plated armatures; a dividing wall was erected between the main room and the corridor leading to the back stairs, and behind it a cinema projector shows the applications to which the engines can be put. The raised stage uses one-third of the floor area, containing settee, table and chairs surrounded by a simple shelving system in abura and sycamore: the remainder, a reception desk and the engines on display. Behind them is a decorative chart showing home and overseas sales, and a column near the reception desk has been used as a photographic display feature to be seen from the street.

2

3

2, the raised stage with the display area beyond it on the left-hand side. 3, the steps to stage from the display area.



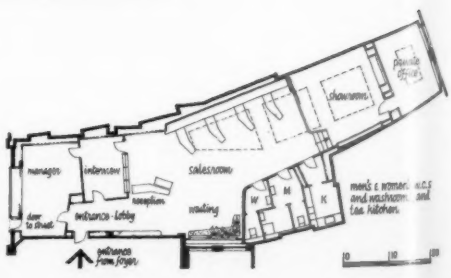
4

4, the sales room from the showroom; the salesmen's desks are joined to a built-in filing cabinet and can be detached if required. 5, the waiting area.

5

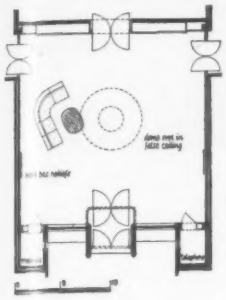
SHOWROOMS FOR AN ENGINEERING FIRM

The London Sales Centre of this firm is in Newgate Street, near St. Paul's; the building had to use the lines of existing foundations, and is thus long and narrow, with entrance lobby, typing space, sales rooms and showrooms as one space. Irregularities in the walls have been straightened out by panelling and used as built-in cupboards and storage space.



RECEPTION HALL FOR AN ENGINEERING FIRM

This is the reception hall and showroom of the firm's Production Centre at Salford; the entrance wall is largely glass bricks, the inside walls are panelled in bleached white walnut squares, with small recesses panelled in sycamore. Two bleached carved walnut panels, by Trevor Tennant, are inserted on opposite walls. A false lower ceiling with a central dome was constructed to give indirect lighting.



6 and 7, two views of the reception hall; the wall reliefs are multiples of the panel squares.

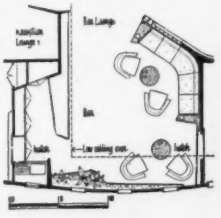
8, reception area and, 9, cocktail bar.

8

9

MARINE ENGINEERING EXHIBITION PAVILION

Exhibition space, reception areas, cocktail bar and offices had to be provided on a 3,000 square foot site with two public gangways cutting through it. The exhibits themselves, marine engines, were large, and therefore the pavilion was made two tier, giving continual views of the engines below from the circular staircase and bridges on either side. The design gives a marine flavour without being a crude imitation of a ship.



10, directors' office. 11, wall display in the reception room. 12, another view of the directors' office, showing the mural by Renate Gross. 13, the reception room, and, 14, a detail of the enquiry window.

10

11

12

13

OFFICES FOR A PUBLICITY AGENCY

The offices had to be fitted into a small flat in a mid-Victorian house in Bond Street which retained heavy door frames and cornices, and rounded glass bay windows. The curtains are lemon yellow and the fireplace wall is panelled in Honduras mahogany. The general office has one wall panelled in aromatic cedar and painted squares, alternating with photographs of the agency's works. One wall is covered with striped wallpaper, and has a display feature of type faces and layouts.

14

15

CHEMICAL ENGINEERING EXHIBITION PAVILION

The requirement was for outward display of the firm's products, combined with an elegant reception space inside and strictly private interviewing rooms. The vertical feature, incorporating the firm's trade mark, and the shaped crystal cubes, symbolizing the firm's products, act as foils to the pavilion itself.

15, telephone booth and general office, showing sample rack. **16,** *part of the reception space.*

16

2 DESIGN REVIEW

Grand Piano

Some things become so stabilized in design that their form is no longer questioned. This happens particularly in fields where technical requirements are a severely limiting factor and pianos are a case in point. Ward and Austin have recently designed a case for a small grand piano for W. Danemann Ltd. and in doing so have reconsidered certain features in the traditional design. The legs which

normally seem to balance uncomfortably in the extreme edge of the piano are set underneath it, the back leg being placed at the centre of a curve approximating to the curve at the end of the piano. The rim of the piano sweeps gently from the key bottom instead of making a sudden jump, or maintaining a constant and excessively heavy depth.

Lastly, the conventional lyre arrangement transmitting the movement from the pedals has been replaced by a simplified arrangement of two vertical rods attached to a horizontal rail between the front legs.

This piano is made in Cuban mahogany with the inside of the fall and the key-blocks polished black. Metal portions finished in satin brass. Retail price £300.

Jensen Silver

Fifty years ago Georg Jensen, then thirty-eight, founded a silversmithy and a school of design in Copenhagen. He died in 1935, but the unit which he founded survives under the leadership of Harald Nielson and maintains the high standards of craftsmanship upon which he insisted during his lifetime.

A selection of the work of fifty years was recently exhibited at the Tea Centre in London, in a setting designed by Finn Juhl, which, by carefully controlled use of simple matt rectangles, directed the attention gently but firmly to the exhibition.

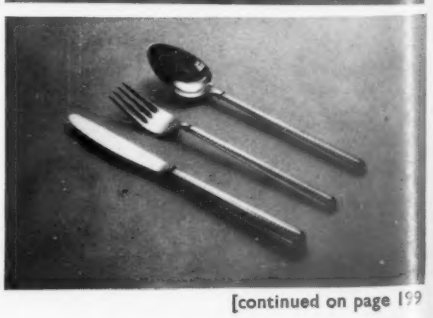
The selection, which includes some stainless steel, shows a gradual change over the years from a sparing but vigorous use of modelled decoration to recent work in which the sole interest lies in the form, sometimes emphasised by geometric surface pattern.

1, an example of the early work, a bowl by Jensen himself designed in 1918; the ornament is rich but does not obscure the form.

2, a jug by Henning Koppel designed in 1951. The disturbing restriction of the neck must surely have severe practical disadvantages. The whole form of the jug shows a restlessness and tension evident in several examples of this designer's work. Maybe this is a result of a search for novelty which is sometimes the outcome of a reliance on

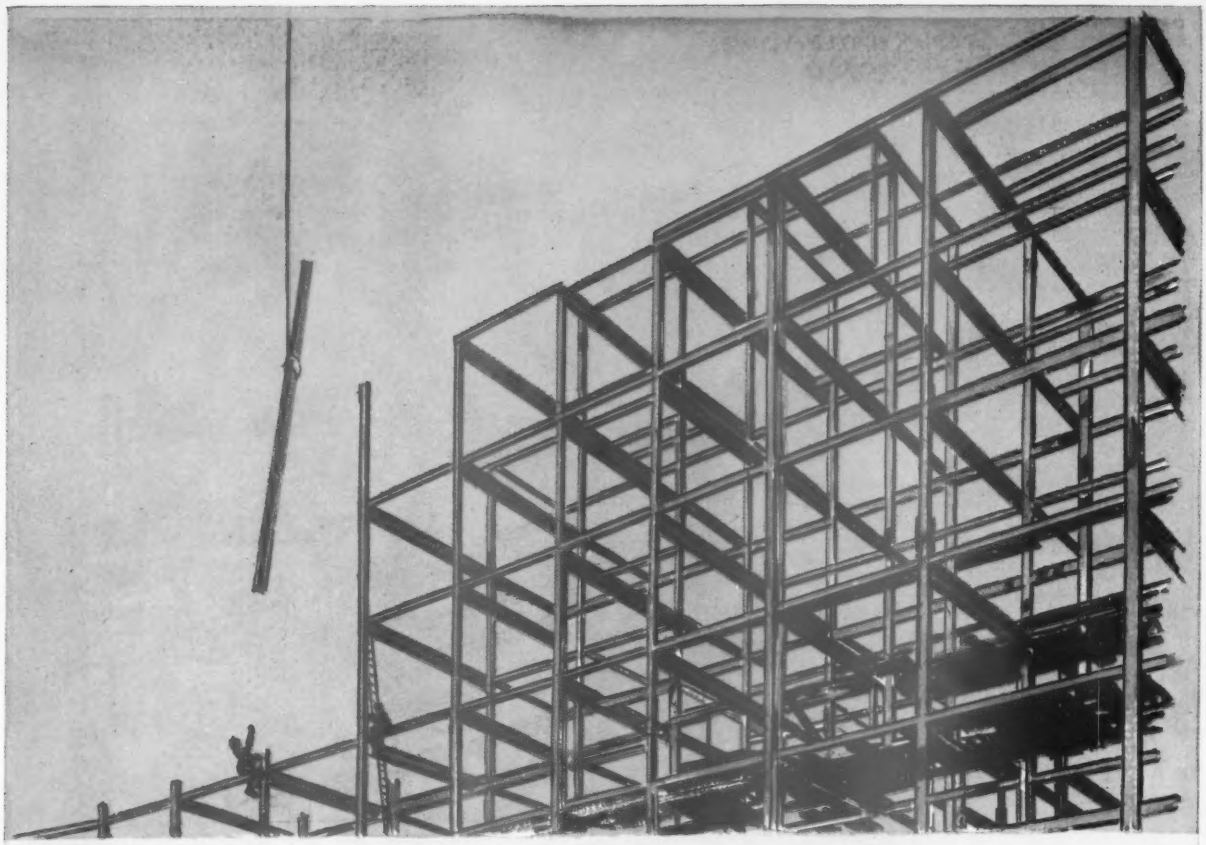
1

2



3

[continued on page 199



Rebuilding programmes

Steel production continues to increase, and many rebuilding programmes are now going ahead.

Steelwork has achieved its outstanding acceptance by reason of its unique combination of economic advantages. Time is gained by fabricating the steel members while the site is still being cleared and the foundations laid: later, the various trades can get to work on the lower floors while the framework of the upper floors is being erected, and a great proportion of the interior construction can be 'dry' work, reducing delay before occupation.

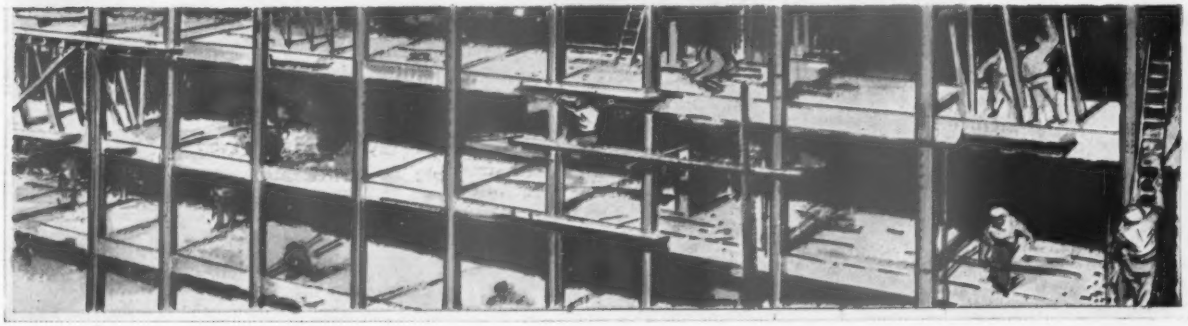
Furthermore, the framework is a 'grid' of great accuracy, assisting the other trades and simplifying the installation or alteration of partitions. Thus, from every aspect, steelwork leads to an earlier occupation of the building and thereby to a better return from the investment.

STEEL

B·C·S·A

STRENGTH SECURITY

BRITISH CONSTRUCTIONAL STEELWORK ASSOCIATION, ARTILLERY HOUSE, ARTILLERY ROW, LONDON, S.W.1



form for decorative effect. The excessive elongations and swellings are inappropriately dynamic.

3, table silver designed by Sigvard Bernadotte in 1954. Simple in form, there is no evidence of struggle here. Each piece is well related to the other to form a pleasant unpretentious set.

4, a vegetable dish by Magnus Stephensen also designed in 1954. This is a very successful contrast of severe body and lid shapes and bold, traditional handle forms which invite the hand. A comparatively newly enrolled member of the design team, Stephensen, who is an architect, was well represented in the exhibition. His work is of a very direct and tranquil character.

4

The exhibit of jewellery was heavy and dull, falling below the design standard of the table silver.

The raw materials for Jensen silver are bought exclusively in England. The characteristic finish is achieved by annealing the silver and immersing it in sulphuric acid; an operation repeated three times. In the buffing which follows some of the resulting oxidisation is allowed to remain to accentuate, for example, incised decoration. The article is finally polished to a satin finish.

3 TECHNIQUES

BLINDS

by John Voelcker

Historically blinds have had two main purposes: to protect shop merchandise from deterioration by the sun's rays—a direct and stable function varying little from one generation to the next—and to provide the quality of interior lighting which the times may require. As the second of these is to a great extent a matter of taste it is a fluctuating requirement: the Victorians used blinds to give a subdued light: they were followed by a blindless generation to whom light could not be too strong: and these in their turn have now been followed by a generation which has experienced the extreme of glare and has therefore turned to blinds to give a light which is even but diffused.

It is to the continuing demand for the shop blind that we owe our present industry. Though ingenious, it is a conservative industry, organized on lines reminiscent of the last century. Partly for the reason that blinds are almost invariably custom built and partly because the market has offered no great incentive to cut costs, mass production methods are only partially employed. Blind components, like so many other items of building hardware, are still made in a profligate variety of shapes and sizes on which a closer regard for economy might well find means to cut down. So long as the chief market for blinds is for shops, the question of price is not critical. But once, as seems likely, they become a standard item of equipment for all classes of interior, price becomes very critical indeed, and it therefore seems important that they should henceforth be designed to profit from the same economies in fabrication which are cheapening the other structural parts.

In this survey, which includes blinds for inside and outside fixing, shop blinds as well as those for more general uses, the blinds are treated in a sequence which begins with the simplest and smallest types and ends with the largest and most complex. In this sequence an attempt is made to describe the main types now available, to compare their constructional and operational differences and where it is at all possible to give an indication of the price ranges for each.

manufacture

Window blinds are, for the most part, manufactured by small firms well distributed throughout the country. In some instances these firms manufacture practically all the component parts of the blinds which they make themselves; in other instances they are supplied with components made by specialist firms. These specialists may be subsidiary firms largely dependent on the blind-making industry for their trade; they may be large distributors of basic materials such as blind hollands and canvases; distributors of blind components who fabricate, but do not assemble, the parts of blinds; or they may be firms which specialize in the handling of a particular material such as bronze, used for high grade blind supporting arms. The blind makers themselves often specialize in a certain type of blind upon which they have built up their reputation.

The kind of standardization to be found in the industry is of considerable interest, for it appears that the components standardized, the degree of standardization and the type of standards adopted are such that immense variation in assembly is possible. Blind assemblies invariably have to be purpose made and this is for two reasons: firstly, there is a great demand for blinds to be fixed into existing buildings where the windows were not in the first place designed to have them, and second, the tolerances to which blind makers must work to achieve the essential close fit at sides and head are necessarily much smaller than the tolerances at present adopted for the window assemblies of new buildings. Standards can only be applied,

therefore, to component parts, and almost limitless dimensional variation is made possible because a number of components, cloth and slats, for instance, have only partial dimensional standards: they can be cut within the limits of the cloth roll or metal strip to any size without losing the economic advantages of standardization.

The difficulties in giving reliable costs for the majority of blind types is, however, considerable. The costs of materials and the fabrication of components in the smaller blinds are relatively small compared with the cost of labour for installing a complete blind in a particular window. The only types of blind for which it is possible to give any real indication of price are those which are most fully standardized, but even here the unit price varies considerably over different blind sizes.

(1) external blinds

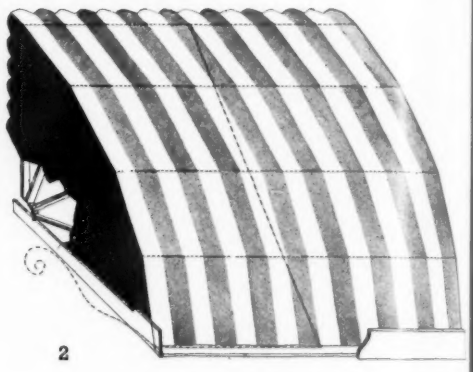
If we exclude such exotic types as the oriental blind, which was designed for round-headed windows, external blinds are limited to three main classes: the Italian or Canaletta blind, which falls straight at an oblique angle from the head, the Canopy or Dutch blind, which falls out in a quarter circle, and lastly, the shop blind, which falls out in the same manner as the Italian but at a flatter angle.

The Italian or Canaletta blind: This type, 1, consists of an assembly of head box, usually of timber, to house the blind when it is not in use; a roller housed in the head box, which may contain a spring mechanism or may be revolved by pulling a cord; a cloth blind of holland, canvas, or linen, striped or coloured, with one end fixed to the roller barrel; and a metal bonnet iron, sewn to the other end of the canvas, which slides and pivots on metal wall guides. Since the possible projection of the bonnet iron when the blind is down is small, this type is only suitable for use over sash windows. A variant has been developed by A. J. Shingleton, called the Hinged Bonnet Canaletta, which overcomes this difficulty by pivoting the bonnet iron half-way down the window and arranging the blind to fall from the head in a quarter arc.

The Canopy or Dutch blind: This type, 2, which was first manufactured in this country 25 years ago, consists of an assembly of head and side boxes to contain the folded canopy and structure; hinged radial side frames connected together by horizontals made either of metal or a combination of metal and wood; and canvas canopy usually with scalloped flounces. This sun blind has the advantage that the side aprons, which provide shade from oblique sunlight, are integral with the main part of the canopy; its disadvantages are that the canvas may wear over the structural members and, when the blind is folded, the bottom of the folds in the canvas collect the damp and may rot.

A variant of the canopy blind has been developed to give a greater projection when the blind is open. In this, the radial side arms are fitted to slider wall fixings when the blind is folded, the arms rest at the bottom of the slide; when it is open the arms are pushed to the top of the slide and secured in position by a metal pin, the projection of the blind being thus increased by the length of the slide fixing.

1



2

1, *Canaletta blind (from material supplied by Tidmarsh and Sons).*
2, *Dutch blind (from material supplied by the Artistic Blind Co.).*

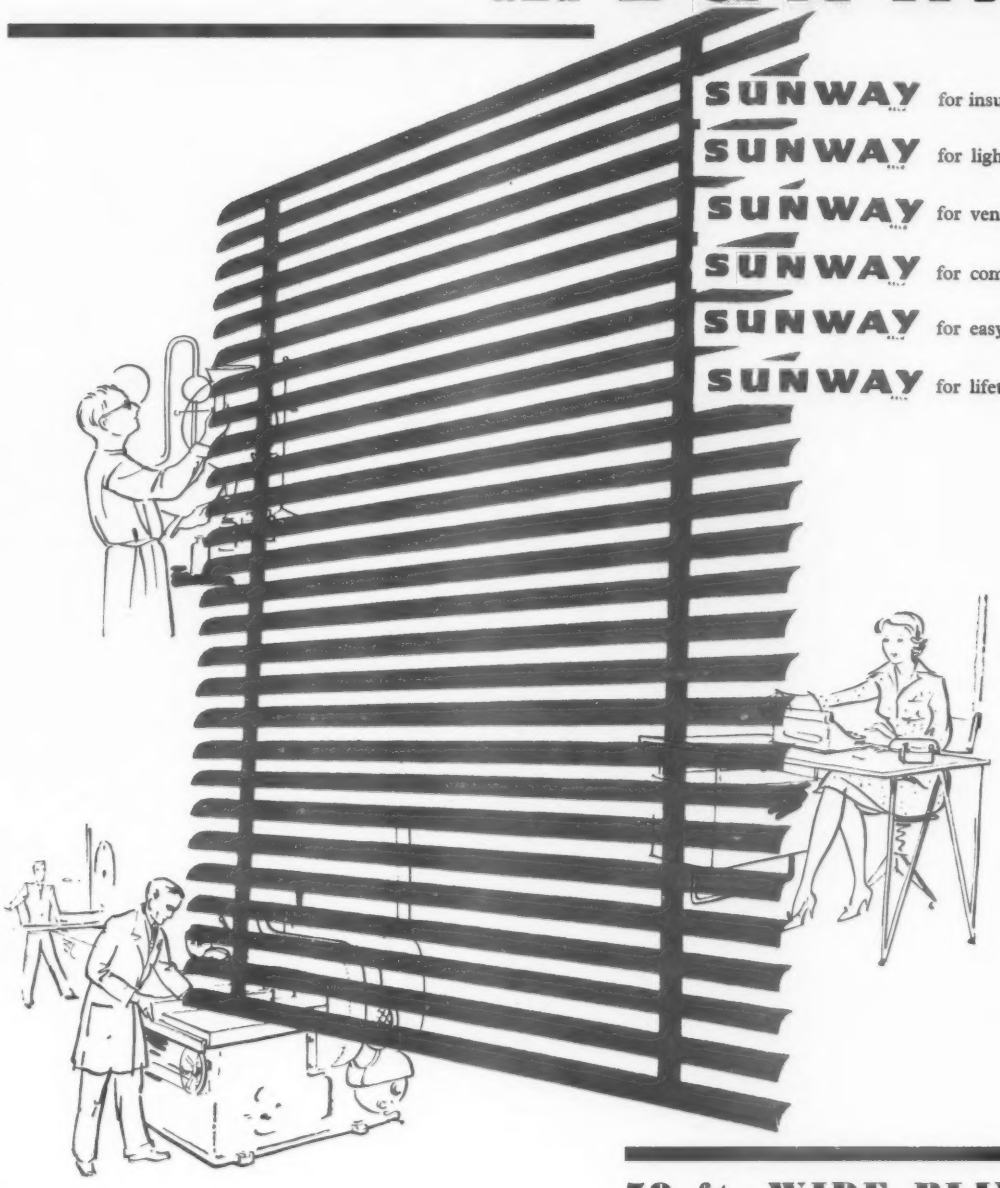
(2) shop blinds

The blinds described above contain in simplified form most of the characteristics of the larger shop blinds. An important consideration in shop blinds is the head-room below the lowest part of the structure; this height is controlled by the local bye-laws and is either 7 feet 6 inches or 8 feet. Side aprons may hang down below this height but must not be lower than 5 feet 9 inches above pavement height except for a 3 feet width immediately in front of the shop which may come down to pavement if required. It is this regulation which gives the characteristic apron profile.

The simple shop blind is an assembly of head box which often projects a few inches in front of the plane of the window; a tinned steel roller barrel containing a spring and pivoted at its end to the head box; a waterproof holland or canvas awning (av. wt. 18 oz./yd.^{2}) fixed to the roller; a timber bottom rail which holds the blind rigid when it is down and forms the fascia of the head box when the blind is shut; metal side arms connected to the bottom rail and hinged at the building face; two chains connecting the bottom rail to the head box, to take the weight of the blind and prevent it being carried by the canvas; and a hook-ended pole for opening and shutting the blind. There are several variations on this simple assembly, the chief reasons for the variants being to achieve a greater horizontal projection without increasing the vertical distance between window head and blind arm hinge and so reducing the head-room below the bye-law requirements. Ideally the blind when opened should project the full pavement width less 18 inches. The maximum width

[continued on page 201

KIDBROOKE SCHOOL and SUNWAY REGD



SUNWAY for insulating and fuel saving

SUNWAY for light conditioning

SUNWAY for ventilation

SUNWAY for comfort

SUNWAY for easy operation

SUNWAY for lifetime service

specify

SUNWAY REGD

VENETIAN BLINDS

VENETIAN VOGUE LIMITED,
408, MONTROSE AVENUE,
SLOUGH, BUCKS.

59 ft. WIDE BLINDS IN KIDBROOKE SCHOOL

The two largest Venetian blinds in Europe—59 ft. wide × 10 ft. drop—have been fitted in the assembly hall of Kidbrooke Comprehensive High School. Each blind is operated by two electric motors; one performs the raising and lowering motion, the other actuates the tilting mechanism. To provide maximum light or maximum dim-out whenever required, the new two-tone slat was used in these special SUNWAY Venetians.

A Company of the Bell's Asbestos & Engineering Group.

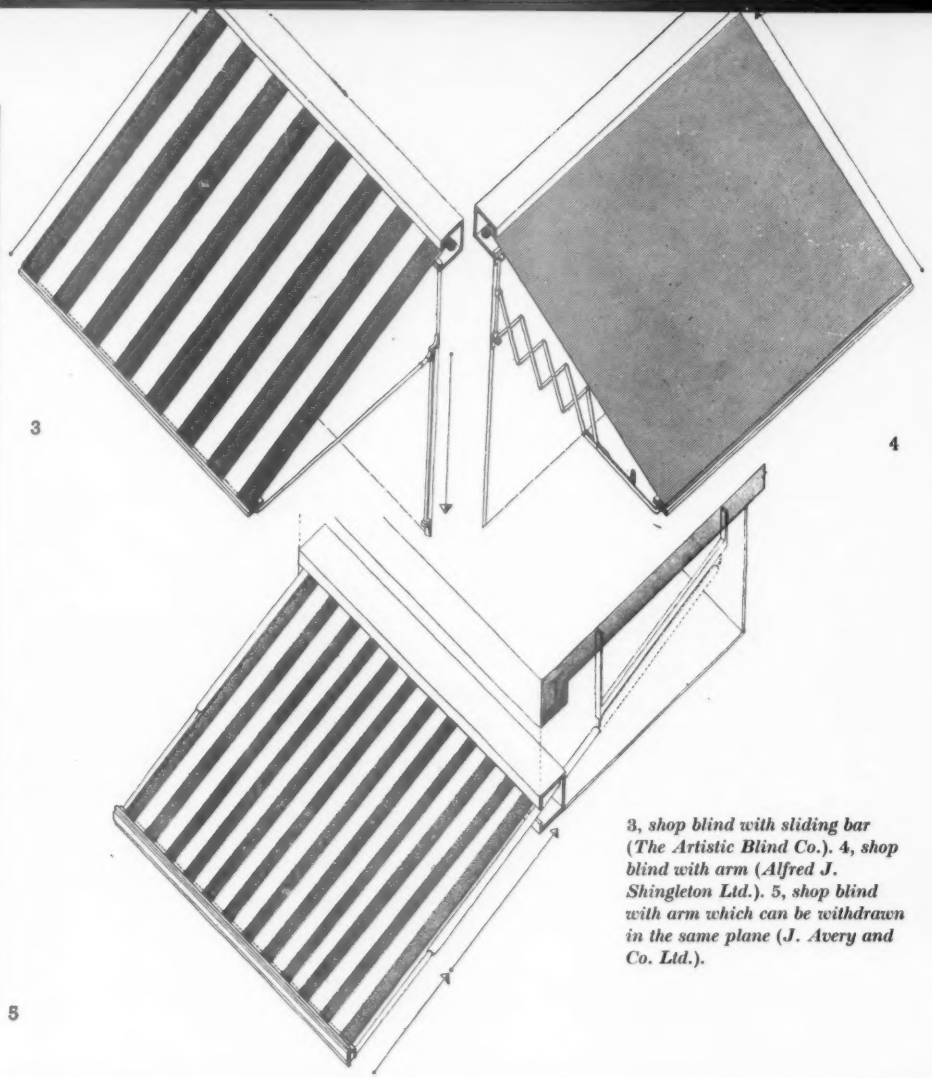
between supporting arms should not exceed 20 feet.

Variation No. 1: Like the Italian blind, the side arms have sliding in place of fixed wall hinges, the metal arms themselves being usually cranked to provide greater headroom over the back and centre of the pavement, 3. A blind of this type, 17 feet wide with canvas and arms of mild steel, costs about £35.

Variation No. 2: A lattice arm is used in place of the swing down arm, 4. This type is particularly suitable when the height available between head box and minimum projection level is very small. A blind 17 feet wide with steel trellis arms costs £50, and with bronze trellis arms £60.

Variation No. 3: This has patented arms, which are a combination of the standard and the trellis types, but possesses the advantage of only a small number of moving joints, often a source of trouble, while the folded arms do not project downwards to obscure the shop window.

Variation No. 4: The arms fold up in the same plane as the awning. Alternatively (as in the version shown in 5) the arms may be drawn backwards in the same plane until they and the blind are completely sheltered.



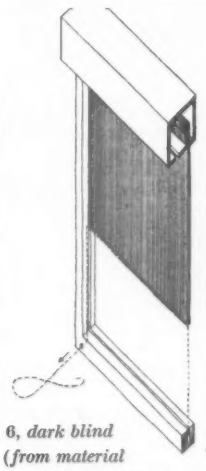
3, shop blind with sliding bar (The Artistic Blind Co.). 4, shop blind with arm (Alfred J. Shingleton Ltd.). 5, shop blind with arm which can be withdrawn in the same plane (J. Avery and Co. Ltd.).

(3) internal blinds

If external blinds fall generally under the class of 'awnings,' internal blinds might be said to fall under the class of 'curtainings,' for their function is analogous to a curtain—provided that it be remembered that there are types of curtain which are intended to let light through. Normally, internal blinds are in a parallel plane to the window, and it is perhaps this factor which causes us to class a given structural type as 'internal' even though it may (as in the case of a pinoleum blind) be hung externally.

Broadly speaking, interior blinds fall into two main categories: those which are made of a continuous sheet material which can pass over a roller, and those which are composed either of discontinuous slats or of a continuous material which has been pleated, the characteristic of both being that they are furled by bunching.

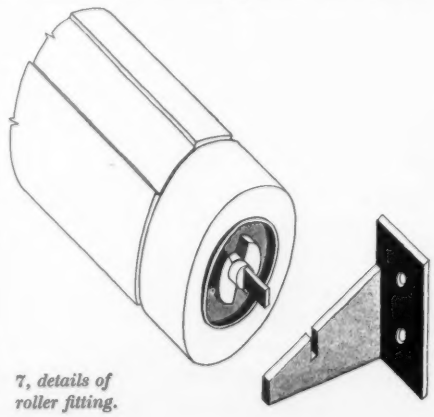
The first of these lends itself best to the type of blind which you cannot see through—such as the blackout blinds used in hospital operating theatres, 6,—while the second is the natural form of the sunbreaker type of blind which you can see through when it is drawn. But function does not correspond exactly to these operational types since the oldest and the most familiar of the sunbreakers, the pinoleum blind, winds up on a roller.



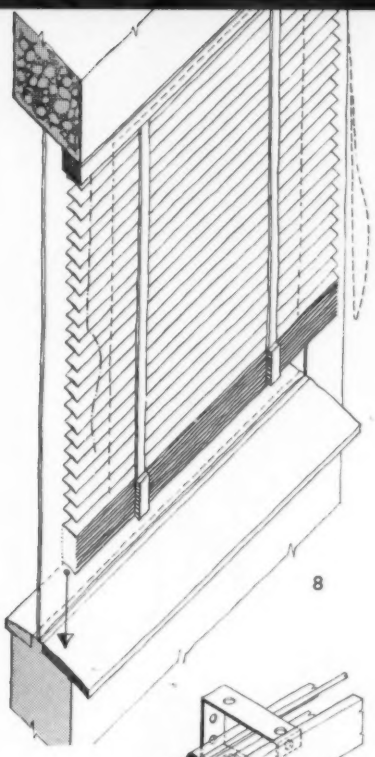
6, dark blind (from material supplied by Alfred J. Shingleton Ltd.).

Roller Blinds

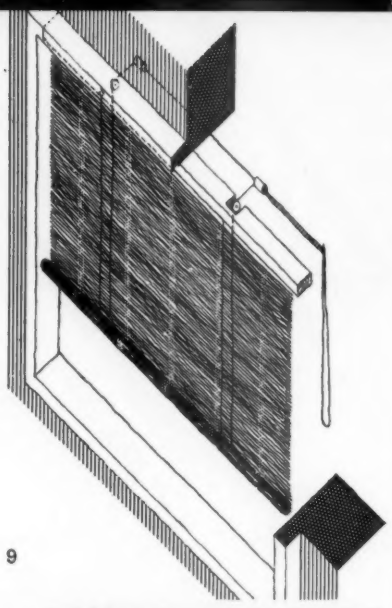
These, perhaps the most familiar of all blind types, consist primarily of assemblies of a roller barrel, which in the smaller types is wooden and for spans over 6 feet tinned steel; blind cloth, which is holland, canvas, duck or linen; a bottom rail of timber or metal sewn into the blind cloth to weight it down and hold it rigid; and control cords. The chief variations in this type of blind are made in the roller, which can be situated at the top or the bottom of the window, and in the control mechanism. The simplest type contains a roller with a metal flange fixed to one end, 7, a cord is fixed to this flange, the other end of this cord being secured to a bracket fixed to the window sill; when the blind is lowered, the cord winds itself round the flange, and the blind can be raised by a pull on the cord. In this type the blind falls by gravity. It is important to keep the cords in good condition, for if they perish the uncon-



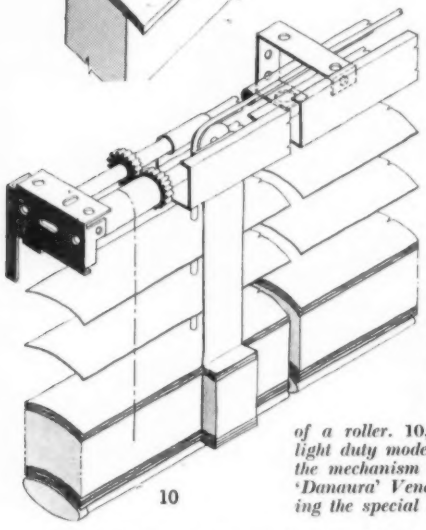
7, details of roller fitting.



8

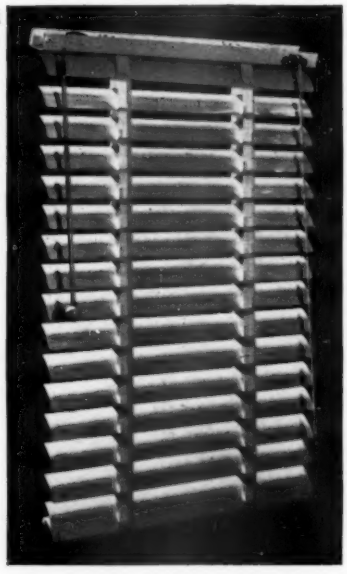


9



10

11



8, Venetian blind. 9, The Pinoleum blind in its simplest form, the Pinoleum rolling up in itself without the assistance of a roller. 10, Venetian blind, light duty model. Detail showing the mechanism at the head. 11, 'Danaura' Venetian blind showing the special control gear.

trolled fall of the weighted blind may damage the roller housing, tear the blind from the roller or upset a window display. To overcome this danger the rollers are often made to contain a spring mechanism. There are several variations of spring roller available: for blinds up to 6 feet in length the rollers are wood and are known by their trade names, 'Eclipse,' 'Hartshorn,' 'Robertshaw,' etc.; these rollers are operated by a centre cord which is secured to a bracket to hold the blind in position, more complex rollers have ratchets or friction collars coupled to their springs. Where these are used the blind is released from its down position by pulling a side cord which disengages the ratchet or collar from the spring. For blinds over 6 feet the rollers are usually of tinned steel.

The pinoleum blind, which must be mentioned in this place because of its use of a roller, is similar in all respects to those already described except that a curtain of pine strips bound together by twine is substituted for the fabric of the blind.

Pinoleum blinds are cheap and assembled from timber strips not much larger in section than a matchstick laced together at frequent horizontal intervals with twine. Three grades of timber are in general use, French pine being the best and obtainable in strips as long as 108 inches, Austrian pine obtainable in 96-inch strips, and Scandinavian softwood used for smaller blinds. Pinoleum is usually dyed green and fixed to a spring roller in the same manner as the ordinary canvas or holland blind. A very simple type is produced in which canvas straps are looped round the pinoleum, 9, and when these are raised the pinoleum, because of its horizontal structure, automatically rolls up on itself, thus dispensing with a roller.

Several blind materials are manufactured to meet special purposes, among them a transparent non-actinic sheet, amber in colour, which, it is claimed, gives added protection against ultra-violet rays.

Slatted and Pleated Blinds

It is the slatted and the pleated classes of blind which are most used to provide the positive conditions of interior lighting which new building technique demands. It is doubtless for this reason that these two types have created for themselves a special section of the industry in which new techniques of production are more in evidence. For this reason it seems natural to discuss blinds in these classes under their trade names.

Slatted Blinds: In principle the components and the operation of all types of slatted or Venetian blinds are similar, 8, though there are refinements and variations in the assembly of each. The cost, rather surprisingly, is about the same as that for the pleated type described below, apparently because the fixing of the metal Venetians is simpler, 10, and there is a greater degree of standardization in the components.

Luxaflex (Hunter Douglas Holland, Rotterdam) are one of the manufacturers who supply components to the Venetian blind-making industry. The aluminium alloy slats they manufacture are 2 inches wide of constant curvature and 33 SWG. Stove enamelled in a variety of colours, they can be obtained with the underside and topside of a single slat differently coloured; the same manufacturers also market ladder tapes to hold the slats in vinyl plastic 1½ inches wide reinforced with stabilized thread, steel head rails, tubular bottom rails, tilter and cord lock mechanisms.

The maximum sizes of Venetian blinds available vary from one manufacturer to another, but on average they should not exceed 20 feet (140 slats) in height nor 16 feet (6 ladder tapes) in width. Normally there are seven slats to the foot when the blind is fully extended, the slats of a 6-foot blind packing into 3 inches when closed, and the ladders being spaced at about 3-foot centres horizontally. Most manufacturers make standard and heavy duty grades, the gearing and control mechanism being more robust in the latter grade.

The '*Kirsch Sun-aire*' (Home Fittings (Great Britain)) employs a slat with an S section, which the manufacturers claim increases the amount of light passing through without increasing the glare.

The '*Danaura*', 11, has a flexible spindle which, in conjunction with a plastic rod, controls all blind action—quick release lowering, raising and slat tilting—by

[continued on page 203

continued from page 202]

rotating a bakelite knob fixed to the end of the plastic rod.

The '*Solomatic*' (Crittall Manufacturing Co.) 12, has two methods of control, with tapes and with a rigid arm. A good feature of this blind is that it is provided with side guides fixed to the window jambs which prevent the blind flapping in the wind.

The '*Sunway*' (Venetian Vogue), 13, in addition to the normal lowering action from the head, has the advantage that the whole blind can be lowered from the head, leaving the upper part of the window free for ventilation purposes.

'*Carda*' *Venetian Blinds* (Holcon) are manufactured to fit between the two panes of the standard Carda window.

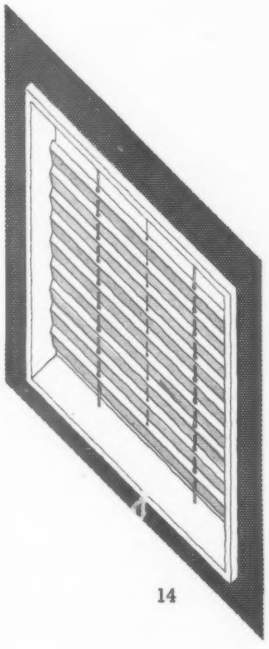
Pleated Blinds: Pleated blinds have considerably less depth from the forward to the backward face than slatted blinds, since the pleats, when fully furled, are only about 1 inch wide, and when the blinds are fully drawn the pleats are, in some cases, stretched to something approximating to a flat surface. Where this is the case, it may be closer to the truth to regard pleating more as a method of furling a blind than as a means of giving a variable diffusion to the light.

The pleated blind has one other structural characteristic which is not shared by the slatted blind, namely that, provided it is not too long, it can be drawn from the side and not only from the top and bottom. In this case the analogy with the curtain is most complete.

The '*Iruta*' (Quillven) is made from chlorine bleached cellulose fibre, creased horizontally into 1-inch strips. The strips are punched with holes at about 18-inch centres horizontally, and cords are passed through these holes to connect the bottom of the blind to the head gear, the blind being controlled by a cord. It is claimed that this material not only acts as a sunbreaker but is a good heat insulator and absorber of certain common sound frequencies. The maximum width available is 7 feet. The '*Accordo*' (Hills (West Bromwich) Ltd.), 14 and 15, is made from pleated canvas, and like the '*Sunway*' blind can be lowered complete from the head. The blinds are cord operated and run down monel metal guide bars secured at head and sill, which prevent the blind flapping in the wind when the windows behind are open. The pleated cloth is available in a wide range, including some special purpose dark colours suitable for lecture theatres and hospitals, where complete blackout is essential.

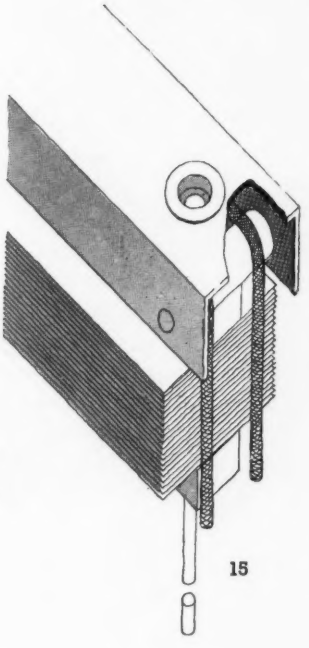
12

13



14

12, 'Solomatic' Venetian blind with tapes and rigid side guides. 13, a 'Sunway' electrically operated Venetian blind fitted at Kidbrooke Comprehensive School. 14 and 15, an Accordo pleated blind. A general view and a detail at the head.



15

(4) larger installations

For larger blinds of all types, or for blinds which are not easily accessible, means of remote control have been developed. In shop installations it is not always possible to have access to the window face internally because of displays, and the ends are therefore brought by pulley to a convenient point. Blinds with remote control are considered, for Board of Trade purposes, to be shop blinds, and, therefore, essential equipment. They are, in consequence, exempted from Purchase Tax.

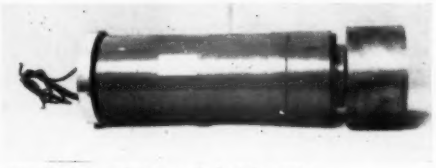
In large installations the technical interest in blind manufacturing tends to shift from the blinds themselves to the electric motors used to operate them, 17. This is too large a subject to be covered adequately in this article; suffice it to say that there are several firms which specialize in electrically actuated blinds, among the more enterprising in this field being Avery's and Albert J. Shingleton.

Avery's have developed two electric motors which they claim cover all situations

where power operation is desirable. These motors are devised to fix inside the blind barrels. Besides the motor there is a limit switch housed in one end of the head, a terminal block in the other end, and the contactors in a contactor box at a convenient control point. The limit switch is adjustable and when it cuts out an electromagnetic brake acts. Through this arrangement the largest blinds can be brought to one-eighth of an inch of any predetermined position, any number of blinds, which need not be of the same dimensions, can be controlled from a single point, or if required, a number of different points. The cost of an installation of this type is approximately £75 per blind.

Albert J. Shingleton have also developed a blind mechanism with very exact control; one such installation has blinds which are raised upwards from the sill, the motors actuating ventilation fans on reaching the blind head, 16.

16, *a dark blind installation in which the operation of the blind is linked with the ventilating fan mechanism.*



17, *'Rolmaster' internal electric motor*

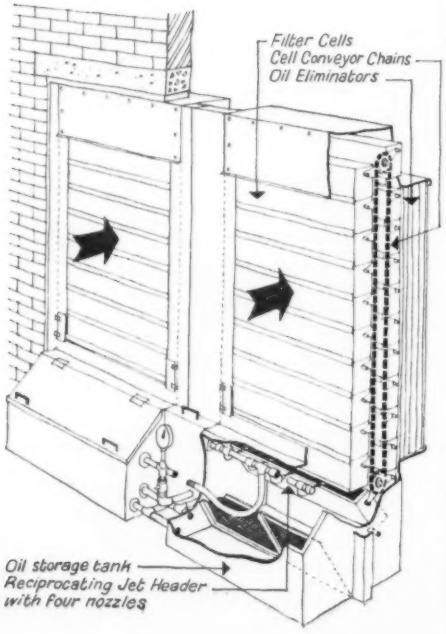
Suppliers A. J. Shingleton Ltd., 160, Earls Court Road, S.W.5. Home Fittings (Great Britain) Ltd., Tumble, Llanelly, Carmarthenshire. Danaura Ltd., 12, Whitehall, S.W.1. Crittall Manufacturing Co., 210, High Holborn, W.C.1. Venetian Vogue Ltd., 408, Montrose Avenue, Trading Estate, Slough, Bucks. Holcon Ltd., 4, Drapers Gardens, E.C.2. Quillven Ltd., Garden Works, Eden Street, N.W.1. Hills (West Bromwich) Ltd., 125, High Holborn, W.C.1. J. Avery & Co., 81, Great Portland Street, W.1. Artistic Blind Co., Oakcroft Road, Surbiton, Surrey, *and* Nelson Place, Wilcot, Bath. Tidmarsh & Sons, Transenna Works, Laycock Street, Islington, N.1. Accordo Blinds Ltd., 845, London Road, Thornton Heath, Surrey.

4 THE INDUSTRY

AIR FILTERS

The problem of air filtering in heavily polluted atmospheres is not how to find a filter which will clean the air so much as how to find a man who will clean the filter. For though there is a great number of filters on the market the majority of these require a regular and careful attention which is not always granted to them.

The Visco 'Reciprojet' self-cleaning air filter proposes a fully automatic solution to this problem, and represents the final mechanization of the viscous oil wetted type of filter which this company has been marketing, in one form or another, ever since 1921. The filters pass up and down on a continuous chain, presenting, as they go, a double barrier against the passage of dust; and they are cleaned as they pass round the bottom of their travel. In normally polluted atmospheres it is sufficient for them to pass through an oil bath (and this is the case in the Visco 'Oilspray' Filter), but in heavily polluted atmospheres such as you might get in a cement works or a steelyard this passive cleansing has proved to be insufficient, and therefore in the 'Reciprojet' the cells are raked by full bore oil jets which leave nothing to chance. Nothing remains but to clear the sludge in the settling tank at relatively infrequent intervals.

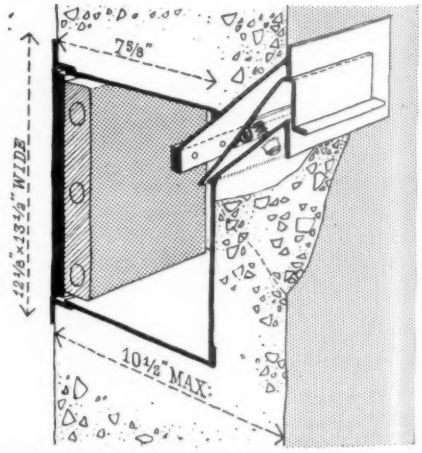


FURNISHING SECURITY

Public interest in the technicalities of locks and safes is not so great as it used to be. Valuables—such as remain—are normally kept at the bank not in the home and it is perhaps for this reason that the burglar and the methods of thwarting him have lost much of their hold on the imagination.

But if high security is the concern only of a few special people, there is another, wider application which concerns almost everyone: the protection of the not-so-valuable against casual theft. This is a field which has been handsomely covered by Messrs. Chubbs who have long marketed a range of small Home Safes.

The most recent addition to this series is what the makers describe as a 'Garage Safe,' by which they mean a night safe for a Service Station into which the attendant can pass the night's takings when he goes home. This is a specialized problem of security to which there has hitherto been no satisfactory solution. The safe itself is built in an outside wall and opens into the manager's office. A chute leads from the outer face of the wall into the back of the safe and has a letter-box opening which is held shut by a spring trap. The money is



mechanism of Chubb Garage Safe.

[continued on page 206

A NEW VENETIAN BLIND—by CRITTALL

The new Crittall Venetian Blind is designed to leave the rudimentary principle of cord operation far behind—together with its snags and hazards. The Crittall 'Solomatic' provides what has been needed for so long as a complement to contemporary design—a means of excluding sun glare without excluding much light and slats which will not rot or reduce ventilation.

Crittall's long experience in windows has made the blind suitable for 'designing in' for neatness and efficiency so that it belongs to the window it embellishes—and is not just added afterwards. With suitable provision it can be fitted externally or out of vertical. If required, two or three adjacent blinds may be operated by one gear control. Full particulars will be sent on request to the nearest Crittall Branch.

Other outstanding points of interest are:

1 **NO CORDS TO DANGLE, TANGLE OR WEAR**

2 **ONE SINGLE CONTROL** (*Single strap, double strap or gear*) *tilts the slats as well as raising or lowering the blind.*

3 **UNEVEN LOWERING IMPOSSIBLE**

4 **ROBUST ALL-METAL MECHANISM** *assures long life.*

5 **MADE IN ALL SIZES** *up to 16′ 0″ wide and 20′ 0″ high. No loss of mechanical efficiency in the larger sizes.*

6 **SLATS** *Light aluminium slats with a plasticised enamel finish in the usual alternative shades.*

7 **LADDER TAPE** *A double-cross web prevents "flutter".*

EXTRAS

(*a*) *Continuous vertical guide channels prevent swaying.*

(*b*) *Pressed steel cover-plates (pelmets) lend a finished appearance to the raised blind.* Note—*Both are stove enamelled to match the slats.*

(*c*) *Fixing by our experienced staff all over the country.*

CRITTALL solomatic VENETIAN BLINDS

THE CRITTALL MANUFACTURING CO. LTD · BRAINTREE · ESSEX · *Factories and Depots throughout the country*

Members of the Metal Window Association

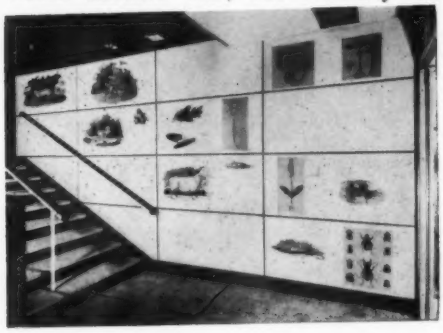
cww68

continued from page 204]

passed through the chute in tin containers and the construction of the trap makes it impossible for any of it to be fished back.

PLASTIC DISPLAY PANELS

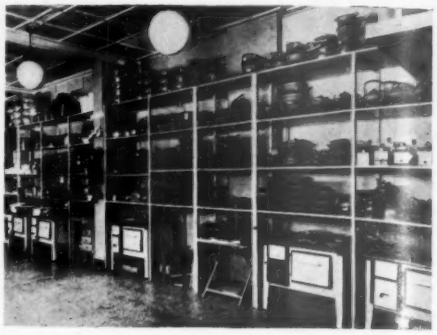
Though the technique has been known and practised for some years, English architects (unlike the Italians) have in the main been slow to use veneered laminated plastics to incorporate designs in wall surfaces. Illustrated here is a display wall at the Livingstone Primary School at New Barnet (Herts County Council) where eighteenth and nineteenth century engravings have been incorporated in standard 'Warerite' panels. In this particular case a special white background was required which affected cost, but normally the technique of incorporating designs behind the finished surface does not of itself make the panels more expensive: only the cost of preparing the originals must be added. The designs are fast and the finished wall is washable and has all the normal hard-wearing qualities of 'Warerite' products. The results have that quality of a technical tour de force which is so valuable in setting off designs which are in the first instance hand made.



INDUSTRIAL SHELVING

Most architects will have reconciled themselves (however unwillingly) to the idea that industrial shelving must necessarily be of steel.

It will therefore come as a relief to many to learn that wood is a practicable alternative for many specialized uses, both as regards strength and economy, using the latter in its widest sense. The Swedish 'Lundia' shelving, which is now being manufactured under licence and marketed by Remploy Ltd., could be more accurately described as wood with steel reinforcement, for a steel angle section is sunk into the shorter edges of the shelves to give strength along the line of fixing and a steel cross brace is screwed to the back of one bay in a range to ensure structural rigidity. This intelligent use of steel enables the shelves to be stressed up



'Lundia' shelving used to store kitchen equipment.

to 500 lb. per shelf, while keeping the wood scantlings surprisingly slender. To ensure tight joints, the wood members are cut to a high standard of precision, but slots have been inserted in the metal angles to allow the wood to move with changes in humidity.

Adaptability in a range of steel shelving is normally only to be got at the price of visible slots, which are always inelegant; but this does not apply here since slots in wood do not 'read' visually.

The shelving is made in a range of size comparable to their counterparts in steel:

[continued on page 208

Let's meet at 3·75

Please let us explain. We're not suggesting a mid-afternoon "get-together". "3.75" is a gauge. In short, it's the thickness in millimetres of our rubber flooring between the ordinary $\frac{1}{8}$" gauge (too light for many jobs) and the more expensive standard 3/16th" 3.75 is, indeed, a *very* happy medium. A solution in terms of adequate thickness at a price inside the budget. We can, of course, supply rubber flooring in whatever gauge you wish . . . tiles in the widest range of sizes and colours as our representative would be happy to demonstrate. He's a pleasant chap—you should meet him. Any time you say, morning *or* afternoon!

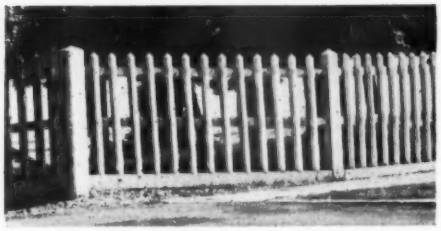
RUNNYMEDE RUBBER CO. LTD., 6, OLD BAILEY, LONDON, E.C.4

continued from page 206]

the uprights vary from 6 feet to 10 feet high, rising in increments of 1 foot, and are slotted at 2-inch intervals to allow for varied positioning of the shelves. The shelves are made in 1 foot, 1 foot 6 inches and 2 foot depths, and in 2 foot, 2 foot 6 inches and 3 foot lengths.

CONCRETE FENCING

A range of precast concrete fencing has been evolved by Messrs. Bell & Webster, working in conjunction with the Surveyor's Department of Southgate Borough Council. This fencing, which is made in heights of 3, 5, 6 and 8 feet, is of the paling type, and at first sight is barely distinguishable from the wood paling fence. Posts, which are of 6 inch square section,



are fixed at 9 foot centres, and are slotted to receive the rails. The palings drop into slots in the bottom rail (which in reality is in the nature of a plinth) and are bolted into the other rails. A characteristic of the system is that all joints, and such metal parts as are used in them, are grouted in so that there should be none of those telltale streaks of rust which have helped to discredit concrete fencing in the past.

Correction

We are asked by Messrs. Ideal Boilers and Radiators to state that the housing estate illustrated in their advertisement in the July issue was incorrectly described as being at Great Billing, Northampton. Its correct address is simply Kings Heath, Northampton.

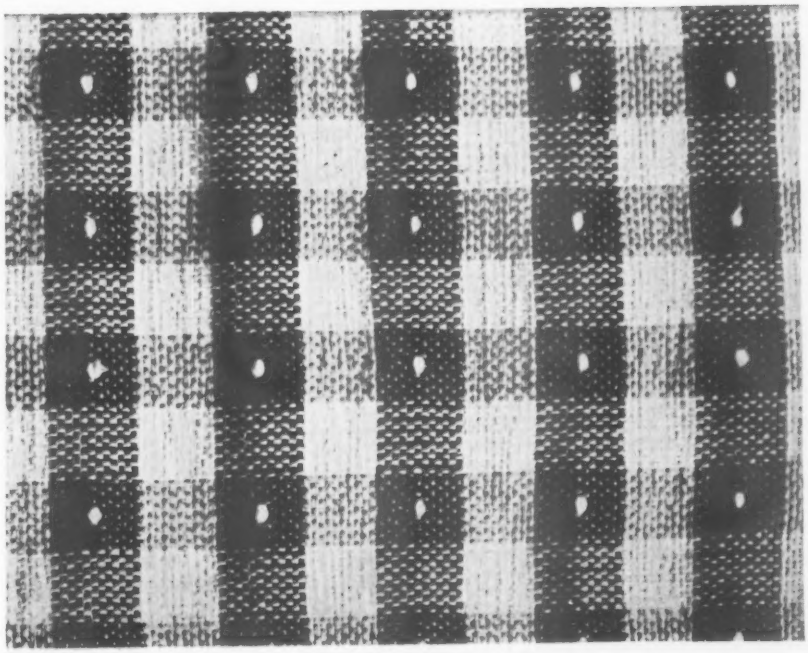
CONTRACTORS etc

School at Hunstanton. *Architects:* Peter and Alison Smithson. *General contractors:* F. W. Shanks, Ltd. *Sub-contractors and nominated suppliers: steelwork:* Boulton & Paul, Ltd. *Glazing and metal windows and door frames:* Luxfer Ltd. *Heating and hot water:* G. N. Haden & Sons, Ltd. *Electrical and gas:* F. W. Shanks, Ltd. *Felt roofing:* Wm. Briggs & Sons, Ltd. *Roller shutters:* Seftan Lift & Shutter Co. *Lightning conductor:* T. W. Gray & Sons. *Seeding and planting:* E. B. Le Grice. *Asphalt pitches:* Ayton Asphalt Co. *Pitch surrounds:* E. Doe & Sons (Contracts). *Asphalt shavers:* Cambridge Asphalte Co. *Water storage:* Braithwaite & Co. *W. C. Partitions:* Flexo Plywood Industries, Ltd. *Sanitary fittings:* Olivier Thomas & Co. *Flush doors:* Veneercraft Ltd. *Ironmongery:* Lockerbie & Wilkinson (Birmingham), Ltd. *Linoleum:* James J. Skellorn & Son. *Pre-cast floors:* 'Millbank Floors Ltd.' *Terrazzo:* Alan Milne, Ltd. *Accotile:* Armstrong Cork Co. *Hardwood flooring:* Horsley Smith & Co. *Cloakroom fittings:* Cloakroom Equipment Ltd. *External gates and metal sundries:* Barnes & Pye, Ltd. *Plaster:* Thistle Plaster. *Roof insulation:* Celcon, Ltd. *White tiles:* Carter & Co. *Paint—Steelwork:* Inertol, Ltd. *Windows, internal fittings, etc.:* 'Dulux' Imperial Chemical Industries Ltd. *Chain link fencing:* Boulton & Paul, Ltd. *Cycle racks:* Alfred A. Odoni & Co. *Wallpaper:* Arthur Sanderson & Sons. *Cables:* British Insulated Callenders' Cables, Ltd. *Lighting and fittings:* Benjamin Electric, Ltd.; Veritys, Ltd.; Hailwood & Ackroyd, Ltd. *Sliding door gear:* E. Hill Aldam & Co. *Sanitary (fireclay items):* Adamsez, Ltd. *Sanitary (valves, etc.):* Barber Wilsons & Co.

Flats at St. Johns Wood, London. *Architects:* Edward Armstrong and Frederick MacManus. *General contractors:* J. M. Hill & Sons. *Sub-contractors: bricks:* R. Y. Ames, Ltd. *Doors:* John Sadd & Sons. *Sanitary fittings:* B. Finch & Co. *Ironmongery:* Nettlefold & Moser, Ltd. *Pre-cast concrete:* Girlings Ferro-Concrete Co. *Electrical installation:* The Phoenix Electrical (London), Ltd. *Fireplaces, surrounds and fire:* Bratt Colbran, Ltd. *Wood windows:* Rippers, Ltd. *Metalwork:* Farmer & Sons and Light Steelwork (1925), Ltd. *Metal door frames:* The Crittall Mfg. Co. *Gas installation:* North Thames Gas Board. *Kitchen fittings:* Built-in Fixtures, Ltd. *External coal hoppers:* George Baker (Builders' Merchants). *Refuse hopper:* Broads Mfg. Co. *Asphalte roofing:* The Rock Asphalte Co. *Play apparatus:* Paul &

[continued on page 210

tibor 'ardil' blend textures



TIBOR TEXTURE DRAPES

Tibor Reich has designed a number of Deep Textures and Texture drapes incorporating ICI's protein fibre 'Ardil'. To curtain and upholstery fabrics in brilliant new colours 'Ardil' has added a warm, soft, silk-like touch giving crisp textures a lovely feel and improved draping properties. The fabrics illustrated are 'Como' and 'Henley'. 'Como' in Black and Yellow cotton and 'Ardil' blend is obtainable on G-Plan furniture by Gomme and is used very successfully with 'Henley' in Black, a plain deep textured fabric. These fabrics are now in full production and are manufactured by Tibor Ltd., Stratford-on-Avon. An interesting range of Deep 'Ardil' Blend Textures, specially designed, can be seen at Liberty's of Regent Street.

continued from page 208]

Marjorie Abbatt, Ltd. *Plastic tile flooring:* Armstrong Cork Co. *Tiling internal and external:* A. S. Tatham, Ltd. *Landscape gardening work:* F. C. Courten & Co.

Paper Mill at Wolvercote. *Architects:* Booth and Ledeboer. *General Contractors:* T. H. Kingerlee & Sons. *Sub-contractors and Suppliers: Central heating, constant humidity plant:* F. G. Alden. *Gas boiler:* Thomas Potterton Ltd. *Gas water heaters:* Ascot Gas Water Heaters Ltd. *Electrical installation:* Hill Upton & Co. *Lighting fittings:* Troughton & Young Ltd.; Merchant Adventurers Ltd. and British Thomson-Houston Co. Ltd. *External renderings:* Callow & Keppich Ltd. *Panelling, specialist joinery and fittings:* J. P. White & Sons. *Sanitary fittings:* Shanks & Co. *Acoustic ceiling tiles:* H. W. Cullum & Co. *Cork flooring:* Armstrong Cork Co. *Terrazzo window boards:* Art Pavements & Decorations Ltd. *Wall and floor tiling:* Carter & Co. (London) Ltd. *Door furniture:* Dryad Metal Works Ltd. *Locks:* Josiah Parkes Ltd. *Sash pulleys and chains:* Rhodes Chains Ltd. *Controlled electric clocks:* Gent & Co. *Paints:* Screeton Paintmaker. *Internal telephones:* The Reliance Telephone Co. *Laboratory equipment:* A. Gallenkamp & Co. *Furniture:* J. P. White & Sons and Elsa Booth Ltd. *Venetian blinds:* J. Avery & Co. *Lettering:* The Lettering Centre.

Flats at Shepherds Bush, London, W.12. *Architects:* Dugdale & Whitaker. *Quantity surveyors:* Horace W. Langdon & Every. *General contractor:* Borough of Hammersmith Building Organization. *Sub-contractors: reinforced concrete:* Caxton Floors Ltd. *Facing bricks:* H. J. Greenham (1929) Ltd. *Artificial stone:* Girling's Ferro-Concrete (Coningham Road only). *Wall tiles:* W. B. Simpson & Sons. *Roofing felt:* General Asphalte Co. *Patent flooring (Accotiles):* Neuchatel Asphalte Co. *'Chevin' self-contained boiler sets:* W. N. Froy & Sons. *Electric wiring:* S. Goodchild. *Sanitary fittings:* Pryke & Palmers Ltd. *Stairtreads:* Stuart's Granolithic Co. *Door and window furniture:* Nettlefold & Moser Ltd. *Casements:* Midland Woodworking Co. *Flush doors:* Clissold Joinery Ltd. *Paint:* Sumex Paints Ltd. *Kitchen fittings:* E. & H. Grace Ltd.

Offices at Bermondsey, London, S.E.1. *Architect:* J. S. Lacey. *Associate Architect:* C. F. Timothy. *Consulting Engineer:* F. J. Samuely. *Quantity Surveyors:* H. J. Venning & Partners. *General contractors:* G. E. Wallis & Sons. *Sub-contractors: demolition:* Willment Bros. *Foundations:* Pressure Piling Co. *Asphalt:* Val de Travers Asphalte Paving Co. *Reinforced concrete:* Liverpool Artificial Stone Co. (*Precast and prestressed*); G. E. Wallis & Sons. (*Insitu*). *Bricks:* A. Turner & Son. *Granite:* Fenning & Co. *Artificial stone:* Girlingstone Ltd. *Slate:* Bow Slate & Enamel Co. *Partitions and doors:* D. Burkle & Son. *Glass:* Aygee Ltd. *Woodblock flooring, patent flooring:* Horsley Smith & Co. (Hayes). *Central heating:* Weatherfoil Heating Systems Ltd. *Stoves:* Radiation Group Sales Ltd. *Gas fixtures:* Radiation Group Sales Ltd. (*Incinerators*); William Sugg & Co. *Boilers:* Ideal Boilers & Radiators Ltd. *Electric wiring, bells:* Courtney Pope (Electrical) Ltd. *Electric light fixtures:* Courtney Pope (Electrical) Ltd.; Merchant Adventurers of London Ltd. and Troughton & Young (Lighting) Ltd. *Ventilation:* Weatherfoil Ltd. *Plumbing:* Ellis (Kensington) Ltd. *Sanitary fittings:* Dent & Hellyer, Ltd. *Door furniture:* J. D. Beardmore & Co. Ltd., Jas. Gibbons, Ltd., Mountford Bros. and Yannedis & Co. *Casements;* Holcon Ltd. (*Wood*); Brunswick Metal Casement & Engineering Co. (*Metal*). *Iron staircases, metalwork:* Haskins. *Telephones:* Modern Telephones. *Convector covers:* G. A. Harvey & Co. (London). *Sunblinds:* Dean's Blinds Putney Ltd.; Holcon Ltd. (*Venetian blinds*). *Plaster:* Gyproc Products Ltd. *Joinery:* G. E. Wallis & Sons. *Terrazzo and marble :* Art Pavements & Decorations Ltd. *Tiling:* Carter & Co. (London) Ltd. *Furniture:* S. Hille of London Ltd., Tan-Sad Chair Co. and D. Burkle & Son. *Shop fittings:* Courtney Pope Ltd. *Lifts:* Hammond & Champness Ltd. *Clocks:* Standard Time Co. *Bridge Signs:* E. W. Thornby.

Interiors by R. M. Gross:

Marine Engineering Showrooms. *General contractors:* Osters & Fleming Ltd. *Sub-contractors and suppliers: Furniture:* Finmar Ltd.

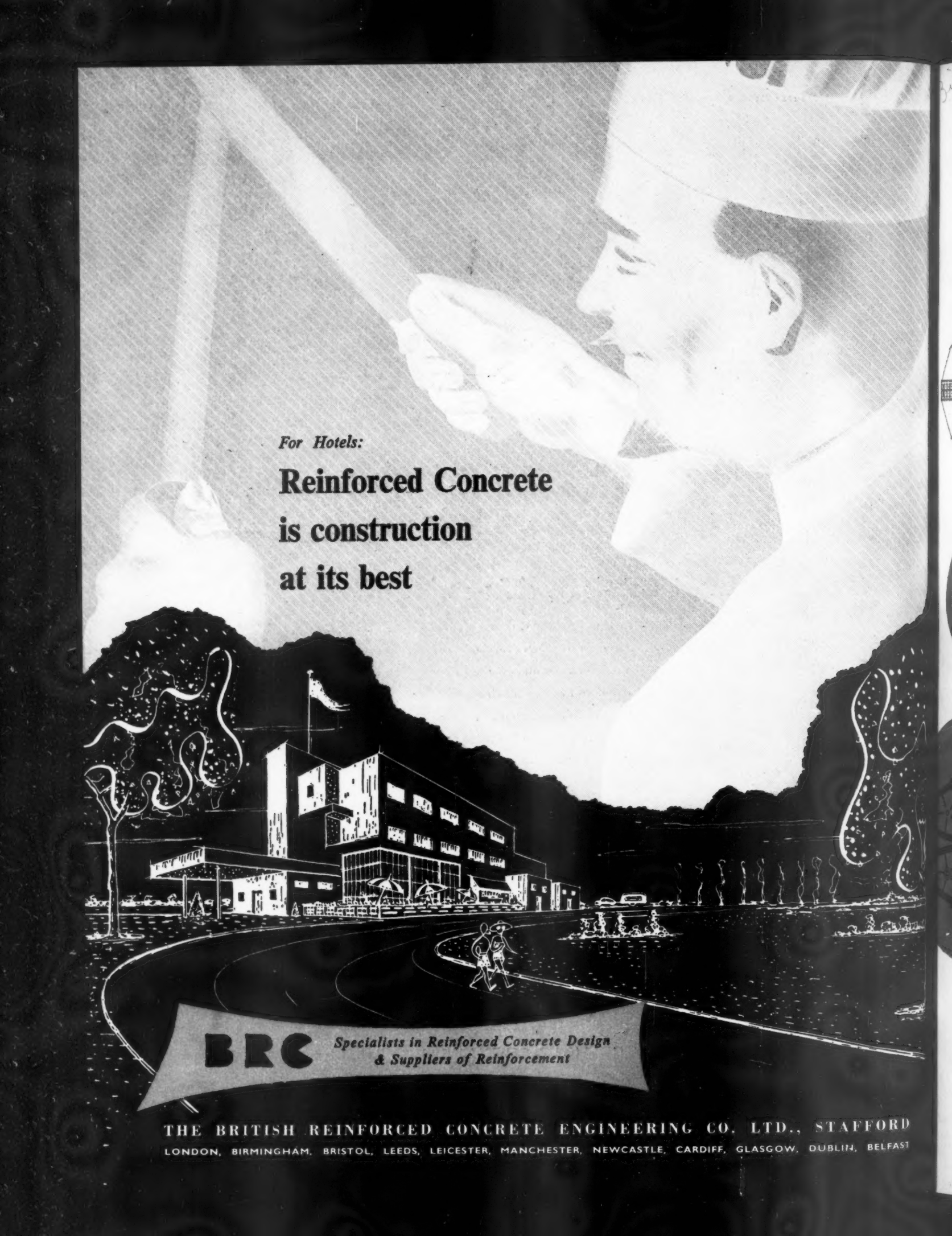
Showroom and Offices, Newgate Street, E.C. *General contractors:* J. Gerrard & Son. *Sub-contractors and suppliers: central heating:* Rosser & Russell Ltd. *Electric wiring:* Courtney Pope Ltd. *Electric light fixtures:* Troughton & Young Ltd. *Ventilation:* Vent Axia Ltd. and Supervent Ltd. *Sanitary fittings:* W. N. Froy & Sons. *Joinery and shop fittings:* Osters & Fleming Ltd. *Marble:* Fenning & Co. *Textiles:* Richard Howorth. *Carpets:* Perez. *Furniture:* Architect's own design; some of the chairs by: Ernest Race Ltd.

Production Centre at Salford. *General contractors:* J. Gerrard & Son.

Exhibition Pavilions at Olympia. *General contractors:* Beck & Pollitzer Ltd.

Publicity Agency Offices, New Bond Street, W.1. *General contractors:* Osters & Fleming Ltd. *Sub-contractors and suppliers: Furniture:* Finmar Ltd. and E. Horace Holme Ltd.

Printed in Great Britain for the Proprietors of "The Architects' Journal," of "The Architectural Review," and of "Specification" (The Architectural Press, Ltd.) 9-13, Queen Anne's Gate, Westminster, S.W.1, by Knapp, Drewett & Sons Ltd., Printers by appointment to the late King George VI, Kingston-on-Thames and London. Editorial illustrations engraved by The Engravers Guild Ltd., Windsor House, 23/26, Cursitor Street, London, E.C.4.
Entered in the New York Post Office as Second Class Matter


For Hotels:
Reinforced Concrete is construction at its best
BRC
Specialists in Reinforced Concrete Design & Suppliers of Reinforcement
THE BRITISH REINFORCED CONCRETE ENGINEERING CO. LTD., STAFFORD
LONDON, BIRMINGHAM, BRISTOL, LEEDS, LEICESTER, MANCHESTER, NEWCASTLE, CARDIFF, GLASGOW, DUBLIN, BELFAST